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ABSTRACT

Arguing that library and information needs should be met at the national, rather than at the local level, this report analyzes ways to meet these needs with special reference to the role of national libraries. The first two chapters highlight such library and information concerns as: (1) collection and preservation of documents of national interest and importance; (2) bibliographic needs; (3) document provision; (4) access to publications; (5) exchange of publications; (6) access to information; (7) services to libraries and information units; (8) leadership and advice to libraries and information units; (9) planning and coordination; (10) education and training; (11) research and development; (12) factors affecting need; and (13) priorities of need. Alternative ways of meeting these needs are then highlighted. The third and fourth chapters examine alternative ways of meeting national library and information needs according to guiding principles, practical factors, and the potential impact of electronic technology. In the fifth chapter, appropriate solutions for national and information provision are suggested for several hypothetical countries undergoing different stages of development. The sixth chapter presents the study's conclusions. (3 tables) (MAB)

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NATIONAL LIBRARY AND INFORMATION NEEDS :

ALTERNATIVE MEANS OF FULFILMENT, WITH SPECIAL REFERENCE TO THE ROLE OF NATIONAL LIBRARIES

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United Nations Educational,
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PREFACE

This document has been prepared by Maurice B. Line under contract with the International Federation of Library Associations and Institutions (IFLA). It was directly inspired by Guy Sylvestre's Guidelines for National Libraries, published by Unesco in 1987 (PGI-87/WS/17), to which it can serve as a sort of companion volume. It is complementary to the earlier Guidelines as it looks at national libraries not from the starting point of their current existence and practice, but from the viewpoint of national library and information needs (i.e. those needs that should be met at a national rather than the local level).

The document is not meant to be used as a guide to national library and information planning ; rather, it is the analytical approach that should be considered as the essential feature of the study, and it is this that will, it is hoped, be found useful.

The designations employed and the presentation of the material throughout this document do not imply the expression of any opinion whatsoever on the part of Unesco.

Readers are invited to send comments, suggestions or requests for additional copies to the Division of the General Information Programme, Unesco, 7 Place de Fontenoy, 75700, Paris, France.

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1. INTRODUCTION

This document looks at those needs that may, should, or must be met at national rather than local level, and the ways in which they can be met, with special reference to the possible role of national libraries. It thus takes a different approach from the Guidelines for national libraries by Guy Sylvestre, which thoroughly reviewed existing practice in national libraries throughout the world and made various suggestions as to the actions that should be taken by or for national libraries. This study is complementary to that of Dr Sylvestre in approaching the question of what national libraries should do and how they should do it from the angle of need rather than of existing practice. No assumption is made that a national library should exist; rather, the case for one is treated as having to be proven, because this can be an effective way of finding out precisely what sort of national library is needed under different conditions.

Library and information needs are considered together because they are increasingly interwoven and libraries of all types are providing information as well as books. This is so most obviously in the case of industrial libraries, but academic and public libraries also provide information to a greater or lesser extent, and national libraries too are becoming more involved in it. Library needs could be considered a subset of information needs, though they are not always perceived as such by individuals, who would not necessarily recognize, say, the provision of novels as meeting an information need. Yet in a less developed country developing and maintaining literacy may depend to a considerable extent on the availability of "light" reading, and its consumers are learning information skills as they read. In this respect the supply of novels, and of virtually any type of published material, may be seen as a national desideratum. Similarly, the collection of national imprints as a part of the national heritage is a source of information as well as a national desideratum. It is important to recognize that by no means all needs are articulated by individuals. It is part of the function of a national library and information system to anticipate needs; by serving unexpressed needs it encourages them to be expressed, and some needs have to be hypothesized by an institution such as a university, perhaps by the state.

"Information" is a vague term, which can be used to cover a great range, from the visual information most of us are taking in during most of our waking hours to the precise item of technical data wanted by an engineer. The term is used in this document pragmatically, in the sense of specific pieces of information, however large or small, required by people.

Most information needs are met without the intervention of a library - indeed, without anything more than such ordinary features of everyday life as radios and newspapers or other individuals. Of those that are not met in such ways, by far the greatest number are met by local libraries, whether

institutional (such as academic libraries) or public. Some needs cannot be met locally, and have to be met in other ways. Local libraries may use other sources directly to satisfy the requirements of users, or indirectly, to enable them to make adequate provision (eg in the form of local catalogues) in order to serve users.

The elaboration of all possible ways of meeting library and information needs would require a very lengthy document. For example, it is clear that all kinds of libraries and documentation centres, individually or in cooperation, can play some part in meeting national needs; the number of possibilities and permutations is almost infinite. This study has not attempted to do more than to outline various general possibilities and focus on the role of national libraries.

The term "publication" is used here to include all forms of recorded knowledge issued to the public. It thus includes audiovisual media and materials in electronic form, but not material that may be recorded but is not available to the public, for example classified documents and television films (unless they are specially issued to the public). The term "document" includes publications and also unpublished materials.

Archives are not considered at all in the study. They do of course constitute information resources of a very important kind, and the borderline between them and library materials is not always clear; it is therefore desirable that they should be taken into account when national library and information planning takes place. However, archives are specialized materials which have received a good deal of attention in their own right, and to do justice to them would have required much more extensive treatment than was possible in a study of this kind.

It will be noticed that this report contains no references to other writings on national library and information needs and planning, on national libraries in general or on particular ones. This is deliberate, as a serious attempt was made to avoid direct influences and to think through the issues afresh. It does not of course mean that the document is uninfluenced by previous work, of which there is a great deal and with most of which the author is familiar; rather, previous writings have been thoroughly absorbed, and sifted in the process of absorption.

2. TYPES OF LIBRARY AND INFORMATION NEED

Library and information needs can be categorized in a number of ways. The following sections identify those needs that are appropriate for performance at a national level. The categorization adopted here is by function. It differs in some significant ways from the various attempts to categorize national library functions, mainly for the obvious reason that it has been approched from the angle of national need rather than that of national libraries; as explained in the Introduction, the whole aim of the present study is to approach national libraries from this angle.

Some needs are common to all countries, though the emphasis placed on them may differ; some are specific to countries of a particular size or nature or at a particular stage of development.

2.1. Collection and Conservation of the Nation's Publications

a. The nation's publications

It is generally regarded as axiomatic that every nation should have a comprehensive collection of its own publications, and should endeavour to preserve it for future generations. (In this study preservation is used to mean the maintenance of the contents of a document, in the original form or a surrogate such as microform or optical disc; conservation is used to mean the maintenance of documents in their original physical form). Most countries have legislation, of greater or lesser effectiveness, to ensure that publications are deposited, either by publishers or by printers.

Traditionally collecting has been restricted to "mainstream" printed publications, but with the great increase in the categories mentioned below this is beginning to change, and it is gradually becoming accepted that all forms of recorded information and knowledge produced in a country should be collected and preserved, whether in their original forms or in surrogates. Surrogates include new forms of text storage such as optical discs.

Patents are not commonly regarded as part of the nation's published production, but this appears to be the result of their traditional physical separation from other printed material rather than for any logical reason.

So-called "grey literature" - reports and similar material produced largely by governments, industrial firms and academic institutions, and not issued through normal publishing channels - constitutes a special problem because of its local origin and the fact that some of it is not declassified until some time after issue. This does not however diminish its value or make it less a part of the nation's pubications.

Audiovisual materials such as films and sound recordings are now being produced in many countries in at least as great quantities as printed publications. Some of them suffer from the same characteristics as grey literature, in that it is not always easy to know whether they are "published" or not, and many are produced locally.

The justification for collections of the nation's publications is that they represent the major and fundamental source of information on the nation's past and present, in its broadest sense: literary, musical, political, economic, scientific and so on. They are the equivalent for publications of collections of paintings, sculpture and other visual artefacts, but they go further because almost by definition most of them contain information in a way that visual artefacts do not. For this reason, the collection of printed ephemera, including locally published material, may be at least as important as of textbooks or popular novels, since they may be vital raw material for the historical record. Only the country in question is in a position to perform adequately the function of collecting its publications.

A further justification for collecting the nation's publications is that any of them might be wanted by users, present or future, in the country itself or in other countries, and the country of origin should be in a position to make them available.

Not a few countries collect, in addition to their own publications, publications relating to their countries that are published elsewhere. These countries are generally small; in large countries that have a long history, such as France, the task of identifying and collecting such material would be a huge one.

Some countries also endeavour to collect publications by their own authors which are issued abroad. These countries also tend to be small for the same reasons as those given in the previous paragraph, and collection tends in any case to be restricted to literary products.

It is safe to say that comprehensive collection of a nation's entire output, let alone of foreign publications of national relevance, has never been achieved in any country. However, most countries have made serious efforts to achieve it, and its desirability has rarely been questioned. This near-universal consensus is now being challenged, for several reasons: the pressures on accommodation in many national libraries, the cost of processing the intake, and the enormous cost of preserving (especially in original form) all the materials of the past. Audiovisual materials present special problems because their use is dependent on machinery; the formats in which they appear are liable to become obsolete and the materials themselves therefore unusable unless they are converted to other forms. In some cases the choice is not between preserving and not preserving published material but between disposing of some material now and keeping it until it decays naturally.

Both disposal of previously collected material and more selective acquisition are now being considered by several national libraries such as The British Library. To return to the analogy of visual artefacts, no-one would suggest that all such items produced in a country should be collected nationally; it would be both impossible and undesirable. The same applies to manuscripts; to take an extreme example, thousands of letters, many of potential interest to future scholars, are written every day. Publications are different only in that they are produced in more than one copy, and perhaps because the fact that they have been published suggests that they are of higher quality. The fact that they exist in numerous copies and so are easy to collect is however in itself no indication of value or interest. The question of whether collection should aim to be comprehensive or not, and if selective on what principles selection might be made, is not pursued here, since it does not materially affect the issue addressed in this study, namely how and where particular functions should be carried out, except insofar as selection might need to be coordinated.

A nation's publications, as well as being collected and preserved, should be available for consultation. Regular access to the collections may be a general right or a privilege afforded to particular people, though the ultimate right of a nation's citizens to consult any of its publications (which would exclude confidential material) should not be a matter of dispute. The question of access for consultation is taken up below (2.5).

The nation's publications should also be exhibited selectively. Every nation will have some documents of historical importance or of some other special interest, and many will also have items of particular beauty. These should be on display, not necessarily continuously, in the same way as other kinds of national treasure are displayed.

The development of electronic storage media such as digital optical discs has created new problems. They may be issued as a separate form of publication, or material on them may be made available on demand. The borderline between what is published and what is unpublished is less distinct with on-demand production; and the contents may be subject to change, so that no one version can be considered definitive.The storage of such materials also presents serious problems, since the life of some media is uncertain. Marginal cases aside, there is no doubt that in most cases such media constitute publications, and difficult though their collection may be there is no reason in principle why they should not be collected and preserved.

However it is carried out, there can be no doubt that the collection of the nation's publications is a function that must be carried out at national level.

b. Unpublished documents

A country is clearly interested not only in collecting

published materials but in manuscripts and unpublished sound and visual recordings, possibly made for the radio or television, that are of importance or interest to the country. The material may consist of the works of significant figures, or refer to important events, figures or scenes, whether literary, historical, scientific, or whatever. There is of course no question of comprehensive collection; the most that can be achieved is a good representative collection, with special attention to major figures and documents.

While a nation's publications may be expected to arrive by legal deposit, though they may require chasing, the collection of unpublished material needs a more active approach. For this reason, it is more staff-intensive.

Like published material, unpublished material should be preserved, and selectively exhibited. Preservation may be even more costly than with much published material, and more important, because most unpublished materials are unique; for this reason conservation may be essential. This is however not so with sound recordings, which can generally be replicated without loss, or with some kinds of visual recording - in neither case is the original physical form usually of importance.

2.2. Bibliographic Needs: Creation of and Access to Records of Publications

An essential need is to know what has been published, whether in one's own country or elsewhere. This need is experienced by users, and by libraries, booksellers and others on behalf of users. This is achieved by creating records of publications and making them widely available. Until relatively recently this was done in two main ways: the maintenance at centres, national or regional, of catalogues or indexes which could be consulted either in person or by correspondence or telephone; and the publication of catalogues or indexes. These latter may cover the publications of many countries, like the Library of Congress Catalog, or only the publications of a particular country, typically in the form of national bibliographies. Now files of both kinds are increasingly accessible online through database hosts, and some are becoming available also on CD-ROMs, which combine many of the virtues of printed bibliographies and online access.

Bibliographic access is needed both to identify documents by such elements as author, title, date and publisher, and to find documents on particular subjects; the latter is of equal importance to the former.

Bibliographic access is here considered in two parts: the creation of records, and access to records.

a. Creation of records

If bibliographic access to the world's publications - the goal of IFLA's programme of Universal Bibliographic Control

(UBC) - is to be achieved, this must be built upon records of the publications of each nation, ideally in a format that enables them to be combined in computer files with records of other countries and searched by common systems. In principle it would be possible to create comprehensive files by international effort - some countries have excellent collections of the publications of other countries, and better facilities for recording them than some of the countries of origin - but the onus must ultimately rest on each country to record its own publications, especially as this function is linked closely to that of collecting the publications. Whether the records should be printed in the form of a national bibliography is a secondary issue; it is likely that more and more national bibliographic files will not appear regularly in printed form, though subsets of the files may be published from time to time, for example bibliographies of historical or literary works.

There is also a need for rapid announcement of new publications, for the benefit of booksellers, libraries and individuals. This also needs to be done nationally. It may but need not be combined with the creation of standard national records. Announcement records should of course be accurate but need not be authoritative; nor need they conform to an international standard, though there are advantages if they do, since they can then serve as the basis of authoritative records and if desired be incorporated in national and international files.

The foregoing applies to physical units such as books, technical reports and films,, although the problems of recording comprehensively grey literature and much audiovisual material are formidable. The position with regard to the distinct entities contained in "composite" products is different. Titles of serials and conference proceedings are generally recorded in national databases, but the articles and papers in them are not. Scientific serials in particular are of universal interest, and as such are indexed in international databases such as Index Medicus and its computerized companion Medline (now available also on CD-ROM). These may be prepared and published as a commercial initiative or by publicly funded bodies such as the National Library of Medicine. In effect, they relieve individual countries of the burden of compiling indexes of their own serials.

So, at any rate, it might seem. However, no serials database can or does claim complete comprehensiveness; they try to cover all material of international significance, but even if they are successful in doing so (and they are often weak in material in languages such as Japanese), much material of lesser significance, including national interest, is omitted. Moreover, while science and technology are on the whole well provided for, the social sciences are less so; there are numerous databases, but in general they are relatively small, many of them have to be used to obtain good coverage of a subject, and even so they may leave substantial gaps in coverage. In the humanities the situation is less satisfactory still.

Some countries do in fact produce indexes of their serials, usually in selected subjects such as literature or education (eg the British Education Index). Some go further and index articles relating to their countries that appear in foreign serials, but these all tend to be small countries. In all cases the emphasis is on subject access rather than on descriptive identification. The indexing of serials and other composite publications that are published nationally is not generally accepted as a basic national responsibility, though the reasons appear to be ones of practice rather than of principle. This function may be noted at this point as one that, whatever the practicalities, should ideally be performed, and at national level.

Conventionally national records have tried as a first priority to ensure detailed bibliographic description, although most of them have provided subject access as well, by classifying the records, by verbal indexes, or by both (often by an index to the classification). However, subject access to books is on the whole very poor compared with the detailed indexing of, for example, chemical articles. The reasons for this are largely practical; subject indexing is expensive, and when, as is usually the case, more than one language is involved, the difficulties multiply. Nevertheless, the need clearly exists, and should be met at national level.

The function of providing catalogue records to other libraries is considered below (2.7a).

b. Access to records

Access to records of national imprints and other forms of publication was mentioned above. It is also necessary to provide bibliographic access to the publications of other countries, including of course the international databases in science and technology. This need grows in importance as the volume of output increases remorselessly (even if the annual output of publications did not increase the total amount would still grow). Access is generally achieved by the acquisition of published bibliographies, national or subject, by online access to machine-readable databases, or more recently by the issue of some databases on CD-ROM. Partial access can be achieved by databases containing catalogue records of the holdings of libraries in the country; how useful these are depends on the quality and range of the holdings and on the libraries included. It would be expected that access to these records would be provided locally, through the purchase by local libraries of the relevant bibliographies or the provision of terminals for online access. However, local resources for the purchase of bibliographies or the provision of terminals are limited, and smaller libraries may well need to call on a back-up system to support their own resources. This back-up system may be regarded as a national responsibility, in the sense that it is in the interest of the nation to see that it is performed.

2.3. Document Provision: the National Resource

The national resource is the total collection of publications in a country available for use - in effect, the sum of the nation's library holdings. As a matter of principle the country as a whole should acquire and retain in a condition fit for use a collection of publications that is adequate to serve the needs of the population, in such a way that they can be speedily and economically supplied and/or made available for consultation (see 2.4 below) to the whole country. Document provision is an essential prerequisite for document supply, and possibly also for the supply of catalogue records if these are to extend beyond those of the country's own publications.

What is "adequate" is a very difficult question. It might be decided in economic terms, if the amount of demand for each item could be determined and the point of diminishing returms established; but this is impossible, and in any case to express library provision in such crude economic terms would grossly oversimplify the matter. One simple answer is that library provision should be as much as can be afforded, but this avoids the questions of what is needed (fundamental needs may be greater than the funds available allow, and not all needs are articulated), and how what can be afforded is decided (this depends to a great extent on the degree of priority afforded to libraries). In less developed countries with less to spend on libraries it becomes even more important to spend the money to best national effect, and decisions should be made both as to what kinds of material are and are not acquired and as to how the available resources are to be allocated among libraries.

If a country cannot or does not make "adequate" provision, the question arises as to how far it can and should rely on the resources of other countries. How far it can is a matter of fact, though not of unchanging fact; how far it should is partly a political question, because no country can be absolutely certain that it will always be able to obtain material from abroad, whether by the supply of loans or photocopies (which would suffer if relations between two countries were seriously strained) or by online access to databases held in unfriendly countries (which would be more difficult to prevent). International access can also be expensive - often more expensive than purchase if items are wanted more than once or twice.

It has been suggested as a general rule of thumb that countries should aim at a minimum of 70% availability of wanted material that is not available locally. This figure seems a reasonable one in view of all the uncertainties; the big problem lies in the wanted material, the 100%, since the extent of demand that cannot be met locally depends to a considerable extent on bibliographic access (if items cannot be identified they cannot be requested) and the perceived likelihood that items will arrive if requested; low expectations are sure to constrain demand.

To ensure that an adequate national resource is created and maintained requires a national acquisition plan of some

kind, stated or unstated. Likewise, to ensure that the national resource is retained for future users requires a national retention and repository plan. Whatever form these plans take, they are a clear national responsibility, important in all countries, vital in less developed ones.

2.4. Access to Publications

This function is divided into two: access for reference and consultation, and the supply of specific items to any location. The principle is that people should be able both to consult material in collections and to obtain specific items however distant they may be.

a. Access for consultation

The ability to supply materials over distance does not obviate the need to provide adequate consultation facilities. In many cases it is necessary or useful for a person to consult several documents together, or to browse through a range of material in a search for particular information, a function that the most sophisticated indexing system cannot usually perform; the recognition of potentially relevant information is often a matter for the alert eye and mind, and cannot yet be achieved even by expert systems.

Consultation does not always need to be on the spot. Remote consultation is possible by means of television or by direct transmission of encoded material, though it is more limited than direct consultation; for example, it is difficult to consult remotely several works at once, turning pages is technically difficult, the screen size is a barrier, and the calling up of identified items cannot compete with shelf searching as a browsing process. Also, the costs are far greater, unless the matter transmitted is small or the user has to travel a long distance for direct consultation. It is normally easier to provide remote consultation access to audiovisual materials than to printed matter.

It may be regarded as a national responsibility to ensure that people have good if not comprehensive access for consultation purposes to major resources of the country, wherever these are housed.

b. Remote supply

Since no library, however large or well selected its stock, can be self-sufficient, access to resources elsewhere is vital if people are to be able to use all the materials they need for their work, research, learning or even recreation; as pointed out in the Introduction, recreational reading can perform a valuable educational and social function. A good national system can also help libraries to optimize their own collection (acquisition and retention) policies. Typically, research libraries, whether in industry or academic institutions, make most demands on remote supply, but libraries of all kinds require such a service. The actual volume of demand in a country depends on numerous

factors, important among them the quality of the supply system and the expectation of success.

A country has a special responsibility to ensure that copies of its own publications, as well as being retained for the future, are available for remote supply,, to its own people and to those of other countries (see 2.2a); a publication must be able to be provided by the country of its origin, if only as a last resort. As bibliographic access to the world's publications is the goal of UBC (see 2.3a), so physical availability of the world's publications is the goal of IFLA's programme of Universal Availability of Publications (UAP). It is therefore desirable that at least two copies of every publication produced in the country are deposited in libraries; even though many needs may be satisfiable by photocopies, copying is liable to damage works, especially if it is repeated. The responsibility to supply copies on request extends to foreign countries; without an acceptance of this responsibility the needs of other countries are unlikely to be fully satisfied, and conversely the needs of the country in question cannot be fully met unless other countries play their part. To obtain items from abroad, a national focus may be necessary, at least until better direct acess to the holdings of libraries in other countries becomes available.

Supply should be reliable and generally speedy; a system that meets requests within two or three weeks is adequate for most requests of most users, but more rapid supply is necessary in a minority of cases. These are likely to occur mainly in science and technology, which account in most countries for the majority of demands, largely because these fields account for the bulk of publications and the majority of users in academic and industrial libraries.

Supply is impossible without access to the holdings of libraries. This requires either a very small number of supply sources or union catalogues.

Libraries have over the years become adept at improvising solutions to the problem of remote supply; these include informal arrangements with neighbouring libraries and individual letters to other libraries known or believed to have required items. Such measures do not in any way constitute an adequate answer to a great and growing need, and better systems are required.

Better systems can be provided by various means and at different levels, for example by local or regional schemes, by sector (eg academic libraries), or by commercial operations. International supply may also meet some or much of the need. There is nevertheless a need in most countries for national coordination or a national back-up when regional or sectoral schemes fail. In any case, it is a national responsibility to see that libraries in the country have an adequate document supply system, including of course access to the system.

2.5. Exchange of Publications

The exchange of publications is a common practice in many countries, and to a lesser extent between countries. Nearly all libraries at one time or another have material surplus to their requirements, and wish to dispose of it usefully, preferably to other libraries, rather than destroy it. At the same time, many libraries have gaps in their holdings (perhaps caused by damage, loss or theft), or have such serious general deficiencies that almost any material of suitable quality within their field of interest are welcome. The aim of any exchange system is therefore to match offers of material as closely as possible with needs for the material.

A system for exchange can benefit not only libraries but the nation as a whole, since some of the material of which libraries wish to dispose may be the only copies in the country; in some cases, the material may be of no immediate interest to any particular library, but of potential national interest in the longer term; it constitutes part of the national resource (see 2.3).

An efficient system for the exchange of publications is therefore both of benefit to particular libraries and of general interest to the nation.

2.6. Access to Information

Not only are information needs of numerous kinds, even in the restricted sense used in the Introduction, extremely common in almost everyone's normal life, but most use of books and other forms of recorded knowledge is to obtain information. There are of course large exceptions like imaginative literature and recorded music, but these are nevertheless exceptions. While most everyday information needs can be met without the use of any system, there are very many needs that cannot, most obviously perhaps for scientific and technical information but also, at the other extreme, for information on local welfare provision. Numerous bodies deal with enquiries for information, but it is recognized as one of the library's functions to provide information at both the extremes mentioned above. Moreover, there are various other kinds of bodies, public and private, whose specific role it is to provide information.

Information provision is here divided into three kinds: primary or "raw" information, "processed" information, and the preparation of information guides.

a. Primary information

By this is meant information that is given without any analysis or processing. (It may already have been "processed" in some way before entering the reference work or whatever form it is available in). A very simple example would be the address of an organization; a rather more difficult example would be the population of a small town in

Nigeria or the melting point of titanium. Such information is not necessarily easy to obtain, but once obtained it requires only to be passed to the enquirer.

Many such enquiries can be answered quickly and easily by the local service point, but for some recourse will be needed to other sources, perhaps a nearby academic library. This will be the case particularly in less developed countries, where local libraries will have limited holdings and expertise. In any country, there may be a serious problem in knowing where to go for some information, and a network of some kind may be required if an answer is to be given. As with document supply, this may be regional or sectoral, but there is clear requirement at national level to ensure that provision is made, however it is achieved.

b. Processed information

"Raw" information such as that discussed in the previous sub-section is often not enough. Many users may be capable of analysing raw facts to yield an answer to a more complex query, but they may not be able to do so efficiently or thoroughly, and even if they are they may regard it as a more appropriate task for a professional. This is especially likely to be the case with senior managers or industrial researchers, and many industries have their own information units for this purpose. Many more industries however will not, and even those that do will not be able to answer all their needs. They would not always be prepared to delegate this task to an outside body, for reasons of confidentiality, but this would be their decision. In any case, a service of this kind is now more likely to be required by academic staff, who have traditionally done such work themselves but are experiencing increased pressure on their time and having to cope with an ever growing volume of publications. Ideally, information processing should be carried out as close to the users as possible, but this is not always feasible.

There is a need for a system to provide information analysis and processing in support of local services. Some see this area of activity as offering the greatest scope for growth in the library and information world. It demands subject knowledge, possibly of a high order, and also professional expertise in sifting and analysing the information. For this reason, this function is particularly demanding and difficult to ensure.

Nevertheless, however a support system is provided, it is a national desideratum that there should be one.

c. Preparation of information guides

There may also be a national need for guides of some kind to information, for example on databases available and on research in progress in the country. Such guides have not normally been the responsibility of libraries or information centres, though there are exceptions; for example, the British Library publishes, and also makes available online, the national register of research in progress (Current

Research in Britain). It is an interesting question whether this kind of activity should be seen as a reasonable, if not a natural, function of libraries or information units, or whether it is more appropriate for some other body (in this case, perhaps a research council). Boundary problems of this kind seem certain to become more common.

2.7. Services to Libraries and Information Units

Services of various kinds can be provided to libraries to help them to carry out their responsiblities to their users. These services thus meet needs indirectly.

Cataloguing is given a sub-section of its own because it has assumed great importance for libraries in the last two or three decades.

a. Cataloguing

Not so many years ago libraries did their own cataloguing. They might use published national bibliographies where they existed, or in the case of older works copy records from catalogues of major libraries such as the Library of Congress. The production of catalogue cards by such bodies as the Library of Congress and the British National Bibliography enabled them, in principle at least, to save local staff effort, but the major break-through came with the advent of machine-readable cataloguing, and now many libraries throughout the world take catalogue records for their acquisitions from databases and add them to their own files.

The question that concerns us here is whether there is a national need to ensure that the provision of catalogue records is carried out, or whether it can be regarded rather as a function that is not essential but that an appropriate national system might nevertheless perform. It cannot be considered a national need in the same way as the provision of documents or information; at best it is a secondary function, assisting libraries to carry out their own function of recording their holdings for the benefit of users. It is treated in this report as a very useful but not essential function, one that might but need not require national involvement of any kind.

b. Other services

Other services that may be offered to libraries to assist their operation include selection, ordering, binding, and preservation and conservation. In some countries with highly centralized systems there may be a statutory requirement that (for example) selection and acquisition in all public libraries is carried out centrally, but this cannot be regarded as an essential national function. The same applies to binding. All of these activities can be considered as optional functions that may in some circumstances be carried out nationally.

Preservation and conservation are in a rather different

category. It is in the national interest, as explained in 2.1 above, to ensure that the nation's publications are preserved, preferably conserved, for the future; these publications may be distributed among several libraries. In 2.3, the need was expressed to ensure that the national resource, which is likely to be scattered among many libraries, was retained; it also needs to be conserved or, where the physical form is of importance, conserved. For these reasons, assistance to libraries in the preservation or conservation of certain categories of material may reasonably be regarded as a national need.

2.8. Leadership and Advice to Libraries and Information Units

This and the following sections deal with national needs of a rather different kind from the previous ones, since they are all enabling functions; they all help libraries and information services to carry out their activities more effectively, but in a rather less direct way than those discussed in the previous section.

Leadership and advice are grouped together in this section partly because they are related (leadership will almost always involve advice at one time or another), but principally because they have in common a non-compulsory element; in this respect they both differ in nature from planning, dealt with in 2.9 below.

a. Leadership

Libraries and information units need leadership of various kinds: to present their case to government, the public, or a particular sector of society; to represent the nation's library and information services internationally; to set standards of collection and service; to formulate policies for discussion and agreement by libraries; to identify issues of importance; and to provide examples of good practice. The provision of examples of good practice is more important in less developed countries, but the other types of leadership are universally needed. They may be provided in the more directive form of planning, which is discussed below in 2.9, or they may be non-directive; and the extent to which leadership is required will vary. Nevertheless, a national need exists.

b. Advice

In countries with mature library and information systems, most individual libraries and information units may be expected to need little advice; when advice is needed it is mostly obtainable from other units, which are readily identifiable. This is not necessarily so in less developed countries, where many libraries may have few if any staff who are expert in various matters such as cataloguing systems, automation, or preservation and conservation requirements and methods. It is in the interests of the country to ensure that libraries are able to obtain advice

in such cases, whether by remote contact (correspondence etc.), visits by experts, or visits by staff of the library needing advice to a centre with the required expertise - especially valuable in cases where practical work is involved.

This is a need then that, unlike the previous ones considered in this report, exists at national level in some countries but not in others. For the same reasons, where the need exists it should become less with time as libraries develop their own capacity.

2.9. Planning and Coordination

Planning and coordination may be seen as more organized and directive forms of leadership, but there is a logical distinction between leading and advising free agencies and telling them what to do, even if the latter does not carry the force of law. In many cases, the same matters may be at issue; for example, standards can be set by a library giving a lead or by direction from a central authority.

The degree to which coordination and planning are considered desirable will depend on several factors: the degree to which the policy making and administration of a country are centralized; the wealth of the country, since the poorer the resources the more important it is to use them optimally; and the number of libraries supported from public funds - the more there are, the more planning is likely to be considered necessary. Most countries have some official machinery for policy making and coordinating library and information matters; some exercise authority directly, some delegate it to a statutory body. There may be a general information policy which is implemented by persuasion rather than force, or there may be formal directives, possibly concerning quite detailed matters, which all are expected or obliged to observe.

Whatever the motive, to save money or to give improved services, the main aim is usually to achieve greater overall effectiveness by using the resources available to best effect. Policies and decisions differ in their importance, and the fact that they are needed nationally does not imply that they all have to be made by or for the government.

2.10. Education and Training

There is a general acceptance of a need for education and training for library and information work, to provide the skills that are required to perform necessary functions and to serve users effectively. Without a proper supply of suitably educated persons libraries cannot function at more than a very rudimentary level. It may take the form of sub-academic, undergraduate, or postgraduate education, or of continuing education - or of several or all of these. There is a clear national need to ensure that adequate education and training exist.

2.11. Research and Development

"Research" can be defined broadly or narrowly. Planning may require investigations and fact finding; at what stage such exercises become research is not always clear. At the other extreme, detailed and deep studies may be carried out into numerous aspects, from the theoretical to the practical. The fact that little research is carried out in many less developed countries does not mean that none is desirable - rather that research is a relatively low priority in the library and information scene; a reasonably effective basic system of libraries and information services can usually be set up on the pattern of existing practice elsewhere.

Research of one kind or another is likely to be required sooner or later in any country. When it is, it can be provided directly or indirectly by a library that offers leadership, or by a national planning body if one exists, or in several other ways; individual researchers or research organizations may carry out work for a library. In any of these cases the research may have to be paid for, and the provision of funds for this purpose may be considered a national responsibility. Finally, there may be a national research plan or policy, whether instigated by government or agreed by libraries.

Development is linked here with research because much research in library and information matters requires practical experimentation; in effect, it is action research. It is a small step from action research to pump-priming desirable developments on the understanding that they are monitored and the results reported and made available to others; an example of this is the government-funded experimentation with automation in the UK in the late 1960s.

The organization, conduct and funding of research, and where appropriate development, are desirable but not an essential national need.

2.12. Factors Affecting Need

The most obvious factor affecting, directly or indirectly, the amount and nature of need is the stage of development a country has reached. A sizeable highly developed country will experience a large volume of demand for scientific and technical information, whereas a poorly developed country may experience scientific needs mainly in such fields as agriculture, tropical medicine and energy; its emphasis will be much more on applied science and technology. As noted in the Introduction, a less developed country may have a real need for collections of "light reading" to help maintain and develop literacy, or for audiovisual materials as instruments of instruction.

To be more specific, needs are determined mainly by the type of development of a country - whether it is concentrating on agriculture or industry, and if the latter what type of industry; the size of the population; and the extent and

level of literacy and education. Demands are partly determined by the level and quality of the existing system, and must not be mistaken for needs, which may be far more extensive and acute.

Today's developing country may, indeed it should, become tomorrow's developed country; today's needs must be met, but at the same time the infrastructure should be built to provide for tomorrow's needs.

2.13. Priorities of Need

In any country there will be a "hierarchy of needs", with some needs taking priority over others; in a rich country the hierarchy, while it exists, is often of little importance because low as well as high level needs can be met, but this is not the case in poorer countries, where decisions have to be made, explicitly or implicitly, as to how far needs of a particular kind (for example in agriculture or for basic schoolbooks) are to be met.

The needs stated in the previous subsections can be structured in several ways. 2.1 and 2.3 (the nation's collections, of its own and foreign publications) are basic primary needs, in that they form the basis or raison d'être of almost all other activities. 2.2 (the national bibliographic record) is a necessary product of 2.1. 2.4 and 2.6 (access to publications and access to information) are services to users which are based on 2.1 and 2.3. 2.5 (exchange of publications) and 2.7 (services to libraries) are services to libraries. The remainder (2.8 to 2.11) are all national services to help the system to function effectively.

Needs can also be categorized according to whether they are essential, desirable or optional. Essential needs are 3.1, 3.2, 3.3, 3.4 and 3.6a; desirable (or complementary) needs are 3.5 and 3.7; and optional needs are 3.6b and 3.6c, 3.8, 3.9, 3.10 and 3.11. 3.8 - 3.11 are more important for less developed than for more developed countries, in some of which they might be regarded as vital, if only temporarily, for setting up the primary collections and the essential services. They may therefore actually have more urgency, though less long term importance, than the needs designated above as primary.

There is another categorization of needs that cuts right across the previous analysis. It may be decided, as a matter of policy, that (for example) science and technology should take priority over the humanities and social sciences; or industry over education; or school education over higher education. Such decisions are not directly related to functions, but they indirectly influence them, since some functions serve particular needs better than others (for example, information services are of much greater use to science and industry than to the humanities).

3. ALTERNATIVE WAYS OF MEETING NEEDS

This chapter considers alternative ways of meeting the needs stated in the preceding chapter. For each of the functions several possible options are discussed. The range of possibilities will be wider in some countries than in others; for example, the existence of a strong private sector will extend the range of options theoretically available.

3.1. Collection and Preservation of Documents of National Interest and Importance

a. The nation's publications

World output of publications is heavily concentrated on relatively few countries, and the concentration has become greater rather than less since World War 2. Most countries produce little in any format, and some produce virtually nothing in some formats such as sound recordings or films. The scale of the task of collecting the nation's publications therefore varies greatly.

Given that the nation's publications need to be collected and preserved in libraries, the question is in how many libraries. At one extreme, one library could have responsibility for all materials, whether national or local in origin and interest, in whatever format they were. Alternatively, responsibility could be divided among several libraries, according to various characteristics.

One possible division is by subject, with, say, separate libraries taking science and technology, the social sciences, and the humanities. Such a division is not uncommon. Less common is allocation of subjects among many (more than six or seven) libraries.

Another option is to divide by format, with separate institutions taking printed materials, sound recordings and visual materials; they may be further subdivided into, say, films and video recordings. Division by format is the general, though not the universal, practice. Material in a single format may be divided between collections, possibly according to subject, possibly by other characteristics such as intended purpose (eg teaching, entertainment, etc), possibly by "sub-format", (eg journals and monographs may be treated separately); in fact, patents are treated separately in nearly every country in the world. Since there are relatively few institutions collecting non-print materials that are nationally recognized in the same way as national libraries are, existing practice does not offer much guidance, except to show what sorts of pattern emerge when institutions receive little money from the public purse and action depends on private funding; few countries have planned systems for the collection of such materials. If they were planned, no further division beyond that of format would seem to be desirable, if only because of the

likelihood of overlaps and the danger of gaps.

Another division could be by geographical origin of material. It is almost impossible to collect at all comprehensively in one place the local publications, including so-called ephemera, that are produced in large quantities in most countries, though it is easier in countries where state control over printers is strong. Even a good representative collection is difficult to achieve. Local libraries are in a much better position to collect such material than central libraries, and this task could be officially delegated to them. They would also be in a good position to collect local non-print materials. This could of course be combined with a national division among several libraries of non-local publications by subject or by format.

A further option, which can be combined with any of the previous ones, is to collect retention or "archival" copies in one location or set of locations and to place "supply" copies in another or others. The case for this would be that two separated copies are less vulnerable than one, and that a library designed for retention and reference may not be well placed to offer a good supply service.

Combinations of the above options are possible. For example, print materials could be divided by subject, and non-print materials by format.

The responsibility for preservation should rest with the libraries that collect the material. This requires that the libraries should possess, or have ready access to, the appropriate equipment for preservation and conservation.

If a dispersed option is chosen, collection must be coordinated in some way; otherwise gaps are likely to occur, or at best varying rates and speed of deposit. The more libraries there are involved, the more difficult, and the more necessary, coordination becomes. It can best be achieved by a central collection and distribution point (or separate points for different formats). Otherwise, a very strong machinery is necessary to ensure that collection is effective.

The collection and preservation of electronically stored material raise formidable issues. In very few countries is it subject to legal deposit, the enforcement of which would in any case be very difficult. At present it is hard to see much alternative to collection by format, unless all such material is to be collected as printout, since facilities for storage and exploitation are not widely available, and the control that producers would wish to see exercised over its use could be exercised much more easily by one or a few institutions than by many. However, this is a matter of current debate and experiment, and the situation could change.

b. Unpublished documents

The nation's publications should arrive by legal deposit, though they may need to be chased. The collection of

unpublished material requires a more active approach, and so is much more staff-intensive.

The location of unpublished documents may follow the pattern of published documents, with one central library or several subject or other libraries collecting both published and unpublished documents. Certainly one would expect major national resources to collect both, but there is a major difference, in that while they may make active efforts to build strong collections and be funded to do so they may have no greater chance of success than other libraries in acquiring materials that do not come on the market - often less in the case of donations. Also, many unpublished materials are of as much local as national interest, and there may be a strong case in principle for their being acquired for local collections.

In any case, where national collections are divided by format, the appropriate institutions to collect unpublished materials are those responsible for published materials in the format, if only on practical grounds, since they would have the resources and physical equipment to handle them.

3.2. Bibliographic Needs

a. Creation of records

The creation of authoritative records of the nation's publications is usually linked to their collection, the cataloguers using legal deposit copies. This is however not so in all countries, and even in others many records are now being created before deposit or even before publication, with the cooperation of publishers; the US and UK Cataloguing in Publication (CIP) programmes are notable examples, though in both cases the records are gathered and upgraded as necessary by the national libraries. There is no reason in principle why all publications should not be recorded at this stage, with publishers submitting records to a central body for editing according to standard codes; in this way it should be possible to combine the two functions of rapid announcement and the production of internationallly acceptable records. In practice, comprehensive recording at the time of or before publication is difficult; after several years' experience of CIP, and numerous efforts to obtain the cooperation of publishers, many publishers are not contributing.

In several developed countries the two functions have effectively been separated, announcement records being produced by commercial organizations such as H. W. Wilson (USA), Whitaker & son (UK) and Brinkman (the Netherlands), and authoritative records being produced by national libraries. It is noteworthy that of the three countries above, the USA and the Netherlands do not produce an official national bibliography, presumably because the commercial bibliographies are considered adequate; the needs of libraries for records for their own catalogues and of users for searching purposes are served by databases produced by national libraries.

Whether national libraries create records from scratch or by editing records submitted by publishers or perhaps created earlier by commercial enterprises, it seems that they must take responsibility for producing authoritative standard records. It also seems natural that the national libraries in question should be those that acquire the national copies of publications, whether they are a single library or several libraries among which collecting responsibilities have been divided. There is however no reason why they should actually carry out the work themselves (as distinct from seeing that it is carried out); it can be contracted out to a commercial body, and the role of the library or libraries can be confined to ensuring that standards of quality are maintained.

In the days when print was the only real means of making available large quantities of complex material, published national bibliographies for each country were desirable, though many countries did not produce them, or produced them long after the date of publication of the books recorded in them. The ability to record items in machine-readable form should now lead to a much more satisfactory solution of this problem.

The indexing of serials and other "composite" works, on the other hand, requires subject expertise that may not be available in national libraries. If this function is performed, it may be appropriate to contract it out to commercial organizations or individual indexers.

Grey literature poses special problems because most of it is generated in local institutions, often industrial ones, and it is difficult to gain access to copies of many items in order to record them. National databases of grey literature, which are never likely to approach completeness, can however be constructed.

Patents are covered thoroughly in international databases (much more thoroughly than journal articles), the records being created as part of the process of patenting.

This study does not address the question of whether a national bibliographic service should recover all or some of its costs, or whether it should be viewed simply as a service to the nation. The main objectives of the service should not be affected; if they are not attained, the system is inadequate whether it recovers its costs or not, and whether it is contracted out or not. Cost recovery can serve as a market signal and lead to a more efficient as well as a more user-oriented service, though the financial or statutory obligation to recover costs should not be necessary for these requirements to be fulfilled; it can also sacrifice long term objectives to short term ones. The location of the service, in the sense of the acceptance of responsibility for giving it, should not be influenced by this issue.

The use of nationally created records by other libraries for purposes of their own cataloguing is discussed below (3.7a).

b. Access to records

In 2.2b the need was stated for a back-up system to give access to bibliographic records of other countries when local resources and facilities were unable to do so. For this purpose a national bibliographic enquiry service is desirable, to provide needed bibliographic information from published and computer files. This requires a centre or centres with a wide range of published bibliographic tools on which to draw, as well as the capacity (in resources and subject skills) to use all relevant online files. A single centre can achieve some economies because it can avoid the need for duplication that would occur with several centres, and this may be the best solution if there is one strong and comprehensive national collection (see 3.3). On the other hand, where national collecting responsibilities are dispersed the libraries in question are more likely to have good bibliographic facilities in their fields.

This suggests that where the "national resource" is effectively distributed among a few libraries (that is, where most of the titles - not copies - in a country are held in a few libraries), bibliographic back-up may be best provided by them, but where the national resource is more widely distributed the back-up is better provided by a small selection of libraries, especially if resources are distributed by subject, or by a network linking a larger number of libraries. If the last option is used, a centre is needed, to plan and maintain the network and to provide a focus for enquiries.

This issue is not unrelated to that of a back-up for information provision (see 2.6 and 3.6), and common solutions may be desirable.

3.3. Document Provision

a. General

In 2.3 it was argued that each country should have a national acquisition and retention plan, to ensure that it had and maintained as adequate a national resource of publications as could be achieved. The simplest way of achieving this is a single national institution containing an extensive collection which is comprehensive in its coverage of different types of publication, domestic and foreign, whatever their format. This would contain copies of most of the works held elsewhere in the country, in sufficient numbers to enable it to give an efficient document supply service. It would be the same as, or very closely linked with, the collection of the nation's publications. It would also be in a good position to preserve the resources.

Such a collection may be conceivable, but it has certainly never been achieved; the nearest approaches are probably the Library of Congress and the British Library, but the latter does not collect visual recordings, and the former does not

have the national medical collection (which is with the National Library of Medicine). The concentration in one collection of material in major categories (e.g. print materials) is a real possibility, but this still leaves some responsibilities to be handled by other institutions. One option can therefore be stated as concentration on one collection, with support from others. A highly concentrated collection is clearly very expensive, though if other libraries are relativley small the total cost of provision need be no more expnsive than distributed provision.

One point that should be made is that too close an integration with the archival collections of the nation's publications may inhibit the ability to perform remote supply efficiently.

A second major option is the concentration of resources on a limited number of collections, responsibility being divided by subject or format, or possibly both. This option can be subdivided according to the number of collections involved: three or four, or ten or twelve. As with collections of the nation's publications, design and coordination of the system become more complex the more libraries there are involved. The advantages of this option are that it can make use of existing subject strengths and make the resources available locally as well as nationally; this latter advantage may be particularly telling if there are universities specializing in major subject areas (say, medicine or agriculture), usually as a matter of national policy. Retention and preservation would be the responsibility of the collecting libraries.

This option is also usually cheaper than a single national collection, though this depends on the extent of existing resources and acquisition budgets in the designated libraries. They may well need to be "topped up" to enable them to make national provision, and in that case it has to be decided whether it is better to put the extra money into one collection or to divide it among several, with the attendant problems of allocation and control over expenditure. Control over retention and oreservation would also be a problem; this might entail marking the "national" materials to distinguish them from the rest.

Other disadvantages are that local use may be in competition with national need, particularly for recent material; and that local libraries, which have to serve their own clienteles, may not be able to give a high priority to a national service.

A distinction should be made between libraries that have a national responsibility as their first one (as would be the case with separate national collections for printed and non-printed materials) and those that have it as a second one (as in the case of a university that is required to collect materials in the humanities). The problems of provision are greater in the latter case, the costs generally greater in the former.

A third major option is to allocate collecting

responsibilities among many more libraries - perhaps all libraries with research collections of any significance. This is set down as a separate option from the second because planning for it is much more difficult, and efficient operation is also much harder to achieve, although the difficulty is reduced if higher education institutions are specialized to some degree. If additional money is made available, fair allocation is exceedingly difficult. If no additional money is allocated, it is impossible to ensure that materials are collected at all, or in sufficient numbers, or that their collection is continued if local finances are reduced. Preservation too is impossible to ensure, the more so as the materials may receive much local wear and tear.

A fourth option is not to allocate responsibilities at all but to expect or hope that the libraries in a country will together serve as a national resource without planning. Whether this is a realistic hope depends on the number and wealth (in collections and funds) of the libraries, and the access that is provided to them (see 3.4). Very few countries are likely to have the required richness of resources without planning. Retention and preservation are at least as difficult as with the previous option.

Mixed options are also possible, with different systems for monographs and journals, or for high use and low use journals. These are discussed in 3.4b, since they relate more closely to remote document supply.

b. Retention

A national retention system requires not only that libraries with national collecting responsibilities keep the materials but that unique materials in other libraries are not lost to the country; many once common items must have been lost to the country because all the libraries that held them have disposed of them. Schemes for the notification of "last copies" have had little success, mainly because they require the continued cooperation of large numbers of libraries. Also, if the libraries themselves do not wish to retain the materials there may be nowhere they can send them. Both of these problems can be overcome if there is a national centre to which all unwanted items can be sent; the centre can then ensure that what national collections do not already have is kept. The national centre may be one of the national libraries in the second option, or the sole national library in option one. The libraries that receive the materials would most appropriately be those collecting in the relevant fields; a separate repository is a possibility, but it would be an expensive one. ("Outhouses" for parts of the collections of libraries are regarded as part of those libraries).

3.4. Access to Publications

a. Access for consultation

As stated in 2.4, most consultation must take place in local

libraries, and the best a national system can do is to try to ensure that as many people as possible have access to well resourced collections for this purpose. This can be done by setting up, for example, a system of regional reference collections, based on public libraries or perhaps academic libraries, though people in remote places will not be reached even by the best of such systems and even in geographically small countries.

The funding of such a system is a real problem. If national funds are sufficient to support it, and if they can be spared from other functions, it is likely that the public or other libraries offering facilities will have enough money to make good provision without special help. Conversely, if local libraries are not well funded, it is unlikely that extra national money for libraries will be available. There might however be in a system of otherwise well funded libraries one or two that fell below a reasonable standard, and in such cases national intervention might be justified, either to compel the funding bodies to provide adequate money or to contribute the money direct.

If the third option for national provision in 3.3 (division of collecting responsibilities among numerous libraries) is taken, it is rather more likely that there will be adequate access for consultation.

b. Remote supply

Remote supply will depend very largely on the system of national provision chosen (whether deliberately or by default), both of national publications and of the "national resource". Conversely, the system chosen for the "national resource" should take account of the need for efficient supply. Because strong central provision inevitably requires a good deal of duplication with local collections, it is usually dearer than distributed provision, but the cost of supply should be lower, and supply should certainly be more efficient (see below).

A single comprehensive national collection will, if organized for the purpose, be able to meet requests rapidly, with a high probability of success, and at a low unit transaction cost. A particular advantage is that all requests can be sent to the one location; there is therefore no need for union catalogues, and much time can be saved by requesting libraries. The cost of provision, as already noted, is high, but because the transaction cost of supply is low the total cost of the system can compare with distributed provision if the volume of demand is high - in the case of a very large central resource, one million requests a year at least.

A system of three or four libraries among which collecting responsibilities are divided should be able to approach in quality the service that can be given from a single collection, though this depends partly on whether their national function is the main one. Ten or twelve libraries, which would all have other main responsibilities, would

probably give a rather less good service, other things being equal, but should still be able to give a satisfactory one. Location tools such as union catalogues may not be needed with the smaller number of libraries if the division of collecting is clear, but they are essential with the larger number.

The third and fourth options are not likely to give an effective remote supply, since competition with service to local users may be severe, and access is impossible without union catalogues. These are now, thanks to the use of computers, much easier to construct, keep up to date and consult than was the case a few years ago, but they are still not without their difficulties and costs.

With the third and last options union catalogues are essential; with the second they may be necessary. The responsibility for their construction and maintenance must be with a central body or bodies (since there may be several).

A division that might cut right across any of the above is according to whether materials can be copied or not, since if they can be copied economically (and legally) different modes of supply are possible. Copies can be sent through the mail or transmitted electronically (by telefacsimile or directly from machine-readable files); in either case the originals do not leave the premises of the supplying library. Copying of journal articles is usually easy and cheap; sound recordings and videotapes can also be copied fairly easily and economically. Monographs, on the other hand, cannot generally be copied except at considerable cost of labour and materials, even if copyright laws permit copying at all. The same applies, though less strongly, to films. Libraries are usually much more ready to supply copies than to lend originals.

There is another factor that may favour different systems for monographs and journals. Demand for journals can be predicted fairly accurately from past demand, and also a high proportion of demand falls on a relatively small percentage of titles. It may thus be justifiable to set up a central facility for the collection and supply of journals in heavy/when it is not reasonable to do the same for monographs. A mixture of options is therefore a real possibility, with a basically centralized or concentrated system for journals and a distributed one for monographs.

demand

Another possibility is a system divided by the level of demand, with a central collection of materials in relatively low demand supplementing distributed resources. The volume of demand on the central collection would be very small, so that its total unit costs would be high, but the material collected would probably otherwise not be made available at all.

3.5. Exchange of Publications

Systems for the exchange of publications may be local, regional or national; they may be organized by subject or format; they may be planned or managed from a centre or centres, or depend entirely on informal contacts. Informal arrangements are unlikely to achieve anything approaching an optimal system. Systems organized by subject can be effective, but they are almost certain to leave gaps, as are local arrangements.

The realistic choice is therefore between national and regional systems, possibly divided also by format; or one could have a mixed system, with a national scheme for non-print materials and a regional one for printed materials.

The solution adopted should if possible be related to that for the retention of materials, in particular for the retention of "last copies" (see 3.3b), which should go to national collections. One national centre (or possibly several) would be able not only to collect surplus material but to allocate to other libraries those items that it (or they) did not need themselves. Failing such a system, only a centrally planned and coordinated one that ensured effective distribution and the retention of last copies in appropriate libraries would meet the various requirements satisfactorily; if there were regional schemes, these would all be coordinated centrally .

3.6. Access to Information

a. Primary information

As stated in 2.6a, most primary information needs must be met at the local level, but a backstop is required for those needs that cannot be met in this way. Sources of information are likely to be widely scattered; they are not restricted to libraries, though libraries would be the normal and obvious sources for most enquiries.

One alternative is a set of local or regional networks, linking libraries and other sources of information; such networks need a focal point, to produce guides to sources of information, to manage the networks, and to serve as a centre to which enquiries can be directed in cases of uncertainty. A national focus may be desirable to ensure that all parts of the country are covered and to link the networks together.

In a less developed country where local libraries are less adequate, and probably less numerous, there is less chance that regional networks linking them will be able to provide answers to enquiries. A better alternative would be a single national network drawing on the resources of libraries across the whole country, whether on a relatively few exceptional libraries or on a larger number.

A third alternative is a single national information centre, able to answer the great majority of enquiries from its own resources and calling on other sources on the occasions when it cannot. A fourth is a small number of libraries among which responsibilities are divided.

In the first three alternatives, there is a role for a national focus of some kind, whether it is merely a planning and switching centre or the main source of information. In the fourth, there would be several foci, with clearly defined boundaries.

A possible division cutting across all the above alternatives is one by major subject area, with one centre or network for science and technology and another (or possibly two others) for humanities and the social sciences. Such a division (which is quite common) has the advantage that expertise in science and technology is different in nature from most of the humanities and social sciences, and is frequently drawn from different sources; moreover, information needs in science and technology are usually more urgent than in other subject areas, and a service set up for the latter may not be satisfactory for the former (or, for that matter, vice versa). The major disadvantage is that there is no clear dividing line between disciplines, particularly between science and some of the social sciences, and some waste is bound to occur.

The solution should be related to access to records (see 3.2b), or to the distribution of the national resource (see 3.3), or both. However, an information network could be more widely spread than either, certainly than the national resource, since useful specialist sources of information can exist which are either not libraries at all or quite small libraries with little in the way of collections. Another difference is that, especially in countries where industry is privately owned, specialist (or indeed general) libraries may wish or need to charge for the supply of information.

b. Processed information

The processing of information is clearly a much more skilled task than the answering of enquiries from ready-made information sources. It requires both subject knowledge, sometimes to a quite advanced level, and professional skills, and relatively few libraries or information units in any country are at present capable of carrying it out.

Since this function is not a commmon one at present, it needs to be developed from a much lower base level than the others discussed in this report. It is unlikely in the extreme that all of the necessary expertise could be provided in one location, and some kind of distributed network is unavoidable. The subject expertise is most likely to be present in organizations that have a special concern with the subjects in question, but many of these will be industrial and probably unwilling to make it available nationally. However, academic institutions could also build up this facility, as could government research establishments.

Whatever the sources of the expertise, a national body should ensure that existing sources are known and accessible and that the creation of new sources is encouraged. One would expect libraries or other bodies offering primary information to be among the existing sources. This body would most obviously be that responsible for coordinating the supply of primary information. If it were a large information resource, it would be able to do a good deal of the information processing itself.

It is unrealistic to expect that such a demanding and skilled service as this could normally be provided free of charge to users, though there are circumstances where the nation might wish to subsidize it partly or entirely; for example, a less developed country might do so in order to assist industry to develop. It might therefore be most appropriately provided by the private sector, though it would still draw on public sector resources where necessary.

c. Preparation of information guides

Research registers were given as an example in 2.6c of information guides that might appropriately be produced, or initiated, at national level. Doubt was also expressed whether their provision should be the responsibility of a national library and information system or of some other national body. There is no clear cut answer to this, but if it were taken on by the library system it could be done by a single national library or information centre, or in effect contracted out to other libraries or bodies, including perhaps ones in the private sector. This activity, even more than the previous one, would need to be charged for, whether the guides were in printed form or online.

3.7. Services to Libraries and Information Units

a. Cataloguing

The provision of cataloguing records is most naturally made from databases consisting of records of the nation's publications (see 3.2a) and of the publications of other countries. The databases of foreign publications could be national files of individual countries or files of catalogue records built up from contributions from various libraries in the country; this was the original purpose and nature of OCLC. If it is possible, as it should be, to access records online, it should be possible to download them to local files, whether free or for payment. Whether a library would wish to do so depends on the compatibility of the records with its own files and on its assessment of the quality and nature of the records; records that may be quite adequate for purposes of information searching may not be acceptable for a library's catalogue, though one would normally expect records that were useful for searching on a database to be equally useful for a local catalogue, if it is assumed that the main purpose of catalogues is to meet the needs of users.

The provision of a catalogue service may, therefore, be a spin-off from a system of access to records, or vice versa; a system designed to provide catalogue records can also make a good access system. The construction of databases of national records was dealt with in 3.2a; it should be related to legal deposit and responsibility for it should be carried by national libraries (whether one or several). A national library or libraries could also hold and make available files of foreign national records; how cost-effective this would be depends on how many foreign items they acquire (and hence their need for such records) and on how many of the records they do require could be obtained from a national cooperative database. The planning and construction of a cooperative database might also be the responsibility of a national library or libraries, but it could (in some countries at any rate) equally well be carried out by commercial or not-for-profit organizations (like OCLC), or by cooperative systems run by libraries as a joint mutual benefit enterprise.

It must also be borne in mind that with increasingly easy international access it may make as much sense to use directly databases held abroad as to plan or use national systems. For some years to come, however, many less developed countries will not be in a position to make available their records in this way, and international access and national databases may exist side by side, each being used for appropriate items.

b. Other services

Where it is considered useful or economic for services such as binding to be planned or carried out nationally, this can best be done by a central unit or series of units.

Preservation and conservation are in a special category because they are of national importance. They also need special skills and, for many items, facilities such as lamination and deacidification machinery, which are unlikely to be widely available; in the case of deacidifaction, only one or two plants may be available in most countries. The same applies to equipment for dealing with disasters such as floods, where freeeze-drying machinery may be called for. The requisite facilities and skills can be provided by a single national centre, or by a series of centres. An alternative is for a national centre to act as an intermediary between libraries and commercial facilities.

3.8. Leadership and Advice to Libraries and Information Units

a. Leadership

Leadership for purposes of representation can be provided by professional library or information organizations, examples of which exist in almost every country. It may also be useful to have one or two particularly prestigious libraries which can speak for others and whose opinion can carry special weight. Leadership by example requires by

definition good examples, which may be provided by such libraries. A "prestigious" library would normally be one that was well established, large and well funded; it would probably be in the public sector, though this is not essential.

b. Advice

As stated in 2.8b, national planning for advice is needed in some countries but not in others. The former would be expected to develop eventually to a position where local libraries and information units were able to manage largely on their own, and knew where to turn for help when they needed it without any special planning. The need for a national "advice system" may therefore be a temporary one, although there may be a case for limited advisory facilities to be available on a permanent basis.

Since the countries where advice is most needed are less developed ones, the option of making it available through commercial organizations for payment is not a realistic one. The main options seem to be a single national centre which provides much advice itself and draws on other sources as necessary, and an advisory network, pooling the nation's resources of expertise. In both cases, advice from other countries would be sought as required.

3.9. Planning and Coordination

Planning and coordination of the nation's library and information system can be carried out directly by a government ministry or department, or delegated to a body with executive or advisory powers (advice to the government on national planning should be distinguished from advice to individual libraries on such matters as conservation). The body could be a committee, or a special agency, or a national library or information centre. The last is unusual because of the danger of conflicting interests.

3.10. Education and Training

The national planning of education and training is covered by the previous section. Actual education and training are usually carried in academic institutions, but may also be carried out partially, to provide practical experience, in practising libraries or information units; this may represent practical and economic sense in less developed countries. If these libraries or units have a major role to play, they would be prestigious institutions (see 3.8a).

3.11. Research and Development

Similar considerations apply to research and development. R & D can be planned nationally (see 3.9) in any country, and research of national interest or importance would probably be nationally funded. In developed countries they would generally be carried out by various bodies, but in less

developed countries they could be carried out in or by practising organizations, which would be among the more important of the nation's libraries or information units.

3.12. Relationships between Solutions for Various Needs

Since various needs are connected more or less closely, the alternative solutions need to take account of this. The main relationships are as follows.

3.1 (collections of the nation's publications) is a base for 3.2a (national bibliographic record).

3.3 (the national resource) may be a base for 3.2b (access to records of other countries) and 3.7a (cataloguing services), and is an essential base for 3.4 (access to publications) and 3.6a and b (access to information.

3.2 is a partial base for some of 3.7a.

3.3b (retention of publications) is related to 3.5 (exchange of publications).

3.7b (other services to libraries) and 3.8 depend to a great extent on strong systems for 3.1, 3.2, 3.3, 3.4 and 3.6.

4. THE CHOICE BETWEEN ALTERNATIVES

4.1. Principles of Choice

Several principles should guide the choice between alternative ways of meeting national library and information needs.

The first is effectiveness: how well each alternative meets the needs. The calculation of effectiveness must take into account the relationships mentioned in 3.12; the most effective solution for one need might not be the same as the most effective for a related need. Overall effectiveness has to be assessed; this may require trade-offs, the acceptance of second-best solutions for individual needs in the interests of the total library and information system. For example, in a particular country the most effective system for a cataloguing service (2.7a) may be a centralized one, that for the collection of the nation's publications (2.1a) a decentralized one, and that for the national resource (2.2a) a highly decentralized one; in this case the most satisfactory overall system might be one in which catalogue records were based on major collections but gathered and distributed centrally.

The second principle is economy. Costs cannot be an overriding consideration, because the cheapest system is quite likely to be among the worst; they need to be considered in the context of effectiveness, that is by the criterion of cost-effectiveness. The matter can be approached from two angles: (a) how much can be afforded, and what is the best that can be done with the money; and (b) what is the minimal cost involved in providing a system that meets basic requirements adequately. The second approach should be taken first, because the money available may not be absolutely fixed, and because a less effective library and information system may incur costs elsewhere, for example to individuals or, more convincingly if a case is made to the government, to industry or to economic growth. Costs are not only recurrent; heavy capital costs may be incurred in setting up, for example, a national audiovisual archive, and these have to be justified.

Even the most extensive financial resources are bound to have some limits, and then decisions have to be made as to how they are to be allocated between functions, either explicitly (if there is a body with overall planning and budgetary authority) or implicitly (as is usually the case). The priorities of need (see 2.13) may be clear; establishing them simplifies the task of allocation but does not solve it. Here again there may have to be trade-offs.

The third principle, touched upon in 2.12, is that systems must be planned to meet not only today's needs but tomorrow's. This does not mean that systems should be designed for rigid permanence; no system's permanence can be relied upon, and to attempt to build a permanent system would risk building one that became fossilized. In some

cases transitional systems may be designed deliberately to meet immediate and urgent needs, and to be superseded in due course.

However, it should be possible to design systems that are both robust enough to withstand growth and other pressures and flexible enough to accommodate changing needs. Some needs are unpredictable; few people before World War 2, for example, would have predicted the enormous growth of science from 1945, with its huge effect on publication and demand. Some however can be predicted, especially in a less developed country which plans to develop a particular industrial sector (which would affect the type of need for documents and information) or to expand its education system rapidly (which would increase the volume of need). In the former case, it would be foolish to design an effective system purely for the present agricultural economy, while in the latter a system that could cope only with a small amount of fairly basic demand would swiftly become inadequate.

A related principle is that choices should be made in the light of tomorrow's technology while being practicable with today's. This is an especially difficult principle to observe, since it is extremely hard to predict in what directions technology will develop or how fast. Predictions were made some fifteen years ago that most significant scientific journals would be accessible in electronic form or by electronic means by the early 1980s; this has not happened, and seems unlikely to happen for at least another fifteen years, if then (but this prediction too could be wrong). Nevertheless, it would be unwise to design any system that was totally unable to take advantage of electronic access to full text journals if and when it becomes possible on any scale. It would be at least equally unwise to plan a system that may never be technologically possible while neglecting solutions that are possible with today's technology; the present should not be sacrificed to an unknown future.

A fifth principle might be stated, although it is partly a matter of cost, which is dealt with above, and also partly one of practice: that the system chosen should build on existing strengths as far as possible and reasonable, if they are real strengths. In a country like the Federal Republic of Germany, with a highly developed decentralized national resource, it would hardly make sense to plan a large new centralized document system. Most countries have an existing system of some sort, and strong arguments would have to be adduced to justify radical changes in it - how strong depends on its present stage of development and effectiveness, because the possibility of radical changes (such as the creation of the National Lending Library for Science and Technology in the UK in 1961) should not be ruled out.

Finally, to pursue a point made in relation to an earlier principle, a system should be realistic and attainable. Highly ambitious plans that cannot be sustained, for whatever reason - lack of money, shortage of human resources, or whatever - are worse than useless because they

waste money, delay the implementation of a more practical system, and possibly damage the credibility of other plans. It would be invidious to point out past errors of this kind, but some national libraries have been planned on a hopelessly ambitious scale and never reach a stage where they are of real value.

4.2. Factors Affecting the Choice of Alternatives

The previous section dealt with principles of choice; this one deals with practical factors. Some are the same as factors affecting need (2.12).

An obvious factor is the physical size of the country. However, this is not necessarily a major factor. It affects consultation access more than any other function, since even with the best transport system in the world it takes a lot of time and money to consult items thousands of kilometres away. How much it affects other functions depends more on the mail, transport and other communication systems than on size as such. A country with good communication systems can achieve the effective supply of documents and bibliographic records, and can perform other functions almost if not quite as well as small countries. Distance becomes important when communications are poor.

Communications can therefore be stated as the most important factor. Surface, air, telephone and electronic communications are all significant; they also support one another, and to some extent good communications in one field can compensate for poor communications in others. Some of the functions can now be performed by electronic means, for example the transmission of bibliographic data, information services of certain kinds, and even the supply of some documents. However, most document supply requires surface or air transport, as does the exchange of publications; and several other functions, such as education, and to a lesser extent planning and coordination, require face-to-face contact. A country with very poor communications of all kinds would find it difficult to perform the service functions effectively by using any of the options indicated in the previous chapter; and even the "non-service" function of collecting the nation's publications would suffer from a poor transport system.

Related to communications, and like it to a certain extent related to the level of economic development, is what might be called the technical infrastructure of the country: the efficiency and reliability of the electricity supply, for example, and the ability to maintain complex machinery in good working condition. This affects the general efficiency of the library and information system, and may also affect the viability of some alternatives.

Population size might also be thought to be a very important factor, but, other things being equal, its main effect is on the volume of demand placed on the system. In fact, other things are very rarely equal. The distribution of the population is usually more important than its size. A

scattered population is harder to serve than one that is concentrated in a few cities, and one that is widely spread over villages is harder to reach than one that lives largely in towns. Again, it is consultation facilities that are most affected, but other functions will suffer if communications to rural areas are poor. Population size sets an upper limit on demand, but this limit is usually not approached. The educational level of the population (see below) is also more important than its size.

The nature of the state can be a powerful factor. A state with a great concentration of policy and decision making on the central government is in a better position to make and implement decisions on national library and information matters than a federal state or one where such decisions are devolved to the regional or local level or, as is becoming increasingly common in some capitalist countries, are left to market forces, perhaps to an extent that any deliberate national plan is impossible. On the other hand, centralization runs the danger that decisions will be out of touch with local needs; this may happen in states that although not federal contain countries with different traditions and cultures, as is the case in the United Kingdom, which consists of England, Scotland, Wales and Northern Ireland (where the issue is resolved by the existence of a UK natioal library and separate national libraries for Scotland and Wales). At all events, national plans are much more feasible with centralized states. The same is true of unitary as opposed to federal states.

The educational level of the population is a major factor in determining the nature and volume of demand - much more important than the size of the population. Primary education will affect literacy levels, and higher education will affect both the output of and the demand for more academic material. It should be noted that the educational level can be raised quite rapidly, and if there is a plan to do so need can also be expected to rise rapidly. The location of higher education establishments - whether they are located in a few major conurbations or more widely distributed - can also have an influence.

As is clear from the above, publishing output and demand for information are key factors, though since they are derivative they are subject to change, which may be substantial and rapid.

The nature of the economy influences need too, and should therefore influence the system to be chosen - whether it is primarily agricultural or industrial, and, if it is industrial, whether it is (for example, and in rising order of information use and need, and of urgency) heavy industry, electronics or pharmaceutical. As with education, the more developed industry is, the more it will produce as well as use information. The distribution of industry, like that of higher education, is also a factor.

The state of the economy affects what can be afforded (see 4.1); some activities require capital expenditure as well as recurrent.

The stage of development of a country is generally judged by economic and educational criteria, both of which have been discussed above. It will affect not only the volume of production of information and of demand but the amount of money that can be made available for libraries and information services, and the need for education and training, for leadership and advice, and for planning to make the best use of the resources. The speed of development may also be a relevant factor.

As noted in 4.1, the existing library and information system cannot be ignored when national provision is being planned. There may, for example, already be an effective national information and documentation centre or national sound and film archive. The level of education and the state and nature of economic development help to determine the level of information and library development. It is unlikely that industry would reach a certain level of development without some information system, and education, particularly at higher level, certainly requires libraries of a reasonably basic level. However, there is no automatic correlation between the economic and educational level of a state and that of its library and information system, and some countries have much better library systems than others of an otherwise similar nature.

The more developed a library and information system is, the more self-sufficient local facilities may be, but also the more demands they may make on a national system because they require more bibliographic records for their catalogues, and more information and documents to serve their readers. It seems at first sight paradoxical that the largest and best libraries should make most demands on national resources, but this tends to be the case, because they generate more references to be followed up and have a larger and more demanding clientele.

Climate is another factor. Most information materials deteriorate much more rapidly in hot and humid climates and the conditions needed to preserve them, even for quite limited periods, are likely to be present in only a small proportion of libraries. This may be a major factor in deciding on the location of the national collections.

4.3. The Possible Impact of Electronic Technology

Electronic technology is having an increasing impact on library and information provision, especially in its ability to overcome problems of distance and to transcend national boundaries. The impact on the construction of bibliographic databases of records created in different places has already been felt, as has that on access to databases. Less effect so far has been experienced on access to information and the supply of documents, but the potential is there.

There are two main ways in which electronic technology might affect the selection of options for national library and information provision. In the first place, it removes some

of the disadvantages of scattered and remote storage of publications and of distributed record creation, and so makes decentralization within a country a more satisfactory option than it was until recently. A distributed collection of the nation's publications, and a widely scattered national resource, are therefore possible in principle.

However, remote supply of most publications by electronic means is as yet scarcely competitive with more conventional means, and for some it is neither competitive nor is it practicable, for reasons of copyright; publishers who own the copyright might supply protected items, but not libraries, except on terms that were favourable to the publishers. No improvements in electronic access will change this situation; if more publications are stored in machine-readable form the position will change, but not in a direction that will involve libraries much as suppliers, since the databases will be more directly under the control of publishers.

Moreover, the overcoming of barriers of distance works both ways: it also reduces the problems of access to centralized facilities. What can be said is that electronic technology makes both centralization and decentralization more practical options.

The second way in which the selection of options might be affected by electronic technology is that international access is greatly facilitated. If rapid and economic access to records created and publications held in other countries is possible, the need to make national provision is much reduced, though the obligation to collect and record natonal imprints remains.

There are however several difficulties with greater international dependence. In most cases access to foreign resources is more expensive than to national resources, and the total cost of national provision and access must be compared with that of international access; the economic balance will depend on the cost of acquiring the material and the estimated likely frequency of need for its actual use - need for use rather than actual use, since many items, even in science and technology, are picked up by browsing rather than by systematic searching through databases and catalogues. Economics is a necessary but not a sufficient determining factor, and a decision should always be weighted towards national provision.

Secondly, international access to much material is not possible by electronic means, for the same reasons as it is not possible within a country. Thirdly, international access depends on good national provision; if many countries reduced their national provision and placed more dependence on other countries there would be poorer total international provision, and everyone would lose in the end. Finally, extensive dependence requires political stability and continuing good relations between countries.

What electronic technology can and should do is to encourage countries to consider how they can cooperate so as to

achieve more between them than they can achieve separately; for example, in Europe countries could agree each to specialize in acquiring materials that were marginal to their requirements and to avoid duplication of such materials, so that the same money would be used to better effect.

4.4. Centralization and Concentration vs. Decentralization

The question of centralization versus decentralization is a key one, since if some functions are better carried out in a decentralized way the case for their performance by a national library must be very weak. (Even when they are better carried out centrally it does not of course necessarily follow that a national library is the only or best solution). The impact of electronic technology (to reduce the disadvantages of both, but not to affect greatly the choice between them) was considered in the previous section. This section looks at the issue more broadly.

It is clear from chapter 3 that no single function has to be carried out centrally. Even the collection of the nation's publications can be, and in some countries is, divided between several libraries. It is useful to make a distinction between the performance of a function and ensuring that it is performed, that is acting as a focus.

Table 1 sets out for each function (a) whether its performance can be totally centralized or not, and (b) whether it must, should, or may have a central focus.

For several functions total centralization is impossible under any circumstances, but that does not rule out a certain degree of centralization, possibly a high one; and certainly a high degree of concentration may be possible. Table 2 indicates against each function whether a high degree of centralization or concentration is desirable. Because conditions between more and less developed countries, and between larger and smaller developed countries, are different, separate columns are allocated to these categories. (Although it was stated in 4.2 that size was in itself not the most important factor, in developed countries it relates closely to major factors such as the volume of output and demand). The indications are very tentative, not least because conditions may differ greatly between countries within the same broad categories. Table 2 should be read as a broad overview by way of introduction to the next chapter, which treats more fully the question of what systems may be most appropriate in countries of various kinds.

If it is considered cost-effective or otherwise desirable to carry out a number of related activities (see 3.12) centrally, it makes sense for them all to be carried out in the same institution. The more functions carried out in one institution, the bigger the institution will be and the more (and more varied) experience it will have, and the better placed it should be to carry out some other functions such as leadership and advice (2.8), planning (2.9) and research

Table 1

Possibility of Centralization and Desirability of Central Focus

FUNCTION	TOTAL CENTRAL-IZATION POSSIBLE?	CENTRAL FOCUS		
		Necess-ary	Desir-able	Poss-ible
1. National collection				
a. Nation's publications	+	+		
b. Unpublished documents	+			+
2. Bibliographic needs				
a. Record creation	+	+1		+2
b. Access	+			+
3. National resource	-		+	
4. Access to publications				
a. Reference	-			+
b. Remote supply	-		+	
5. Exchange	+		+	
6. Access to information				
a. Primary	-		+	
b. Processed	-			+
c. Information guides	+			+
7. Services to libraries				
a. Cataloguing	+		+	
b. Other	+			+
8. Leadership & advice				
a. Leadership	+	+3	+4	
b. Advice	+		+	
9. Planning	+	+3	+4	
10. Education	+			+
11. Research & development	+		+	

Notes

1 mainstream publications such as books and journals
2 other materials like a-v, grey literature, etc.
3 less developed countries
4 developed countries

Table 2

Desirability of High Degree of Centralization or Concentration

FUNCTION	DEVELOPED COUNTRIES Larger	DEVELOPED COUNTRIES Smaller	LESS DEVELOPED COUNTRIES
1. National collection			
a. Nation's publications	+	+	+
b. Unpublished documents	-	?	?
2. Bibliographic needs			
a. Record creation	?	+	+
b. Access	-	?	+
3. National resource	?	+	?
4. Access to publications			
a. Reference	-	-	-
b. Remote supply	?	+	?
5. Exchange	?	+	+
6. Access to information			
a. Primary	-	-	-
b. Processed	-	-	-
c. Information guides	-	?	?
7. Services to libraries			
a. Cataloguing	?	+	+
b. Other	?	?	+
8. Leadership & advice			
a. Leadership	?	+	+
b. Advice	-	?	+
9. Planning	?	?	+
10. Education	-	-	?
11. Research & development	-	?	+

research and development (2.11).

4.5. Combination vs. Division

The previous section dealt with the question of centralization or concentration as against decentralization; this section is concerned with centralization on one institution as against division among two or more institutions (division among many institutions is considered to be decentralization). Division can be by subject, format, or function.

a. Subject

The obvious division by subject would be into science and technology on the one hand and the humanities and social sciences on the other, though further division is possible, for example between the social sciences and humanities, or between medicine, agriculture and other applied sciences. The main argument for division is that the needs are different; there is far more demand in the sciences for information rather than simply publications, for service rather than stock, and information is usually wanted much more urgently. Different kinds of organization and staff are, it is argued, therefore required. Also, science and technology are held to contribute more directly to the national economy and therefore to national welfare, and so deserve special treatment. For reasons such as these, several countries, especially less developed ones, have set up national documentation centres, with no connection with the national library.

The main arguments against are that science and technology are just as much part of the national culture and heritage as the humanities; that the boundaries are far from clear-cut, particularly between the social sciences and science (industry has a need for information on management, industrial sociology and economics); that if the humanities are treated separately they tend to be relatively neglected - for example, document supply may be much less adequate; and that many of the skills required, for example for cataloguing, are common across subjects.

Whatever decision is made as to separation or combination, the arguments above have to be treated seriously. If there is a single institution, services to different communities may be planned as distinct subdivisions within the organization (incidentally, it is more useful to plan in terms of different user communities than in terms of different subjects). If there is division among several institutions, close coordination is needed to make sure that there is no unnecessary overlap and that no gaps occur.

b. Format

The main division is between textual matter on the one hand, and visual and sound recordings on the other; the latter may be and often are divided into visual and sound. The case

for separate provision is that audiovisual media require different, and specialized, modes of recording, storage, preservation and use - they all need machinery to be used, and since technology changes either the media have to be converted to modern forms or obsolete machines have to be kept in working order.

The case against is that textual matter is now appearing in the same format as sound and visual matter; videodiscs and optical discs can equally well store print, sound and pictures, and some are being produced that contain all three on the same disc. Multi-media packs containing different formats in the same package are sometimes issued. These trends will continue, and make separation impracticable and unsatisfactory for users.

If materials are divided, similar measures need to be taken as for division between subjects.

c. Function

As is clear from chapter 2, there are several distinct but related functions. Some are so closely related that it is scarcely possible to carry them out in separate institutions, but that does not apply to them all. Not only that, but there may be conflict between functions, and to attempt to perform them all in the same organization can result in one or more of them being sacrificed to the others, or to none of them being done really well.

For example, a national collection organized with a main view to preservation and occasional reference is likely to be poorly placed to provide efficient document supply, information service, or even bibliographic access. A good document supply service may not be able to give a first rate information service because some of the material wanted as a source of information is out on loan. If functions are to be divided, there are several possible permutations, none of them ideal, and good links between them are essential. If all or most of the functions are carried out in one institution, the organizational structure must be such as to enable the best pattern of activities and services to be carried out.

d. Permutations

Combinations of the above divisions are possible. For example, there could be a national collection concerned almost entirely with the humanities, and a separate collection (a major part of the national resource) intended to provide a remote document supply service in science and technology, leaving document supply in the humanities to a distributed system.

4.6. Separate vs. Shared Institutions

Whether or not library and information provision is divided or combined, it can be carried out in separate dedicated

institutions or in institutions in which non-national activities also take place. These will generally be university libraries, but may also be public libraries. In the former case, the national functions will normally be added to existing university functions, whereas in the latter a basically national library will be required to function also as a public library. The reason for sharing is of course that economies are achieved - of buildings, of equipment and facilities, and of staff. The space and staff time required are no less with shared libraries, but there is greater flexibility; for example, the conservation skills needed for a national library may occupy less than one person, and the spare capacity can be used for the university library.

Similar problems can arise with shared systems as with combined national libraries (see 4.5). One major function may dominate, and the other will suffer, probably the national function in the case of a shared national/university library. There may be conflict between the two sets of needs and functions. If this is to be avoided, they need to be very clearly distinguished, and each set given the facilities and staff to enable it to be performed properly.

4.7. Public Sector vs. Private Sector

Whether national library and information functions should be performed by the public or private sector was hardly an issue a decade or so ago. This situation has changed as a result of several factors. There are greater demands for information tailored to needs, which private operators have come into being to serve. Electronic media offer information producers such as publishers the opportunity to bypass libraries and to charge users directly for documents and information. The costs of electronic access, which are quite high and very visible, have pushed some libraries into charging and operating in a commercial manner. Not least, there is a deliberate policy on the part of some governments to transfer as many public sector activities to the private sector as possible. In several countries a flourishing private informaton industry has grown up, ranging from the large database host to the one-man information broker.

There is not a clear division between public and private sectors. The difference between a public sector library charging full commercial costs and a private sector body is not great. Moreover, a public sector body can contract out some of its activities to the private sector while still retaining policy and quality control of them, so that the two sectors are working hand in hand.

So far as national library and information functions are concerned, some can clearly not be the responsibility of the private sector in any way; planning is the most obvious example. The collection and recording of the nation's publications might be considered other obvious examples. However, while the national library would retain full

responsibility for ensuring that these needs were fulfilled, the recording could be contracted out, as could also the collecting itself. At the other end of the spectrum, services to libraries, including (and especially) cataloguing services, could be entirely commercial operations. Midway between these are information and document supply. These might at first be thought obvious candidates for private operation, and indeed the actual services could be; but both depend on resources of documentation, most of which could almost certainly not be provided by the private sector.

What happens in any one country clearly depends on goverment policy and the political system of the country. Extensive private operation of national functions would affect the size of the national library (or several libraries if functions were divided), in some cases perhaps reducing it to a level where it was hardly a viable operation, or to one where its main responsibility was coordination and ensuring that the tasks were carried out. In a country where the national functions were very large in quantity (for example, a country with a huge output or demand), a single national library could be so big that contracting some operations out could be quite attractive. At all events, the possibility of private sector performance of some national functions both enlarges the range of options and complicates the selection of a good solution.

5. POSSIBLE SOLUTIONS FOR COUNTRIES OF DIFFERENT KINDS

In this chapter possible appropriate solutions to national library and information provision are suggested for several different hypothetical kinds of country. It must be emphasized that the countries do not, and are not intended to, represent particular recognizable countries; they are what might be called selective composites, and the solutions are given by way of example only. The solutions are also necessarily tentative, since it is impossible to offer an authoritative prescription for any individual country, let alone a general class of countries; in any case optimal solutions may not be capable of execution for political or other reasons. As stated in the Preface, the value of this study is intended to lie in the approach, not in the detailed conclusions.

It might be supposed that this chapter is of potential interest only to less developed countries faced with decisions on whether or not to establish or expand a national library, since nearly all developed countries will already have well established systems for meeting library and information needs. While this is true, however, there may be pressing reasons for a new look, such as the patent inadequacy of present provision, the need for new buldings for the national library, or the increasing role of the private sector in satisfying needs. The second of these was the initial reason for the setting up in the United Kingdom of the National Libraries Committee, whose report in 1969 led to the creation of the British Library and to far-reaching and fundamental changes in national library provision. Other developed countries (Norway is an example) are known to be reviewing the situation.

Inevitably the analyses are rather superficial. The cases are not generally argued in detail, since the arguments are covered in preceding chapters, especially chapter 3. Comments are however made where it is considered necessary. For each type of country each function is considered in turn. The functions are not described or even outlined; for precise descriptions reference should be made to chapter 2.

The six hypothetical "model" countries are:

- Large developed
- Large developing
- Medium developed
- Medium less developed
- Small developed
- Small developing.

5.1. Large Developed Country

This hypothetical country is a highly developed one with a large physical area and a large population (c.60 million), concentrated largely in cities. It has a capitalist economy, with a very large private sector (including a

substantial information industry) and an official policy of transferring appropriate activities to it from the public sector. It has a large but slightly declining industrial sector, but it is especially advanced in "frontier" areas such as new materials and electronics. It has a large and growing service industry. Since its population is numerous and highly educated, and because of the nature of its economy, it has a large output of publications in various formats (including 50,000 books a year), and there is a very big demand for documents and information. There are numerous libraries, many of them with rich resources.

1. National collection

a. Nation's publications. Should be gathered and housed by a central library, or divided by format or subject among a few libraries, . In either case, it would be supported for local publications by other (local) collections. Central coordination by planning body necessary.

b. Unpublished documents. Probably quite widely dispersed among research libraries, though the central collection or collections would be expected to have strong and possibly the leading collections.

2. Bibliographic needs

a. Record creation. Depends on the system for collection of the nation's publications; the collecting institutions should be responsible for the recording of the material they collect. These should include local libraries, and libraries with strong collections of report literature and other "non-standard" publications. Close central coordination is needed, preferably by one of the collecting institutions.

b. Access. Dispersed, but there should be central coordination to ensure that access is fully adequate. This should be exercised by the same body that coordinates the creation of records.

3. National resource

a. General. The national resource will be widely dispersed, though for reasons of efficiency in document supply a high concentration of largely duplicated and/or marginal material in one or two collections may be justifiable. Where the nation's publications are divided among several libraries, these will normally have strong collections of foreign material. Central coordination is desirable, except if the country's libraries are so numerous and rich in resources that this is unnecessary. This should be carried out by an official or unofficial national planning body if one exists.

b. Retention. Should be concentrated on institutions with large research collections of national importance. If the national resource is concentrated as above (3a), this collection would be an appropriate recipient of material disposed of by other libraries. With a concentrated retention system, little coordination should be necessary. With any other system, cordination should be as above.

4. Access to publications

a. Reference. Very widely dispersed. Coordination to achieve adequate reference provision over the whole country may be desired; if so, it should be carried out by a

national planning body.
b. Remote supply. A wide range of possibilities (see 3.4), the choice among which depends partly on the national resource system. A concentrated collection would make a high degree of central supply desirable; such a collection may be a part (preferably a separate part) of the national library. Mixed options should be considered. Union catalogues may be based on a national catalogue network if there is one, but should not be dominated by it. Central coordination, which is essential, should be exercised by the national planning body or possibly the concentrated collection if there is one.

5. Exchange
Dispersed, but there should be central coordination by the planning body.

6. Access to information
a. Primary information. Widely dispersed. A focus for ensuring adequate back-up is desirable. This can be provided by a national documentation or information centre, which may be the national library.
b. Processed information. Dispersed. A backstop rather than a focus is desirable; this can be provided as above (6a).
c. Information guides. May be produced by any body, including a national library. No coordination is necessary.

7. Services to libraries
a. Cataloguing. Dispersed, possibly commercial, though a national library could provide a cataloguing service. Coordination needed only if provision is inadequate.
b. Other. Dispersed, but a national library could play a major role in providing (e.g.) conservation facilities.

8. Leadership and advice
a. Leadership. Probably provided for most purposes by a library association, but a national library may give a lead for some activities. Machinery needed to ensure that leadership is available when needed.
b. Advice. Widely dispersed.

9. Planning
The task of a government or government-appointed body (a national library should be planned as part of the total library scene, and cannot therefore be responsible for planning).

10. Education
Dispersed. Coordination may be the task of a planning body.

11. Research and development
Conduct of research widely dispersed; central coordination may be by a planning body or a national library.

Comment

Because the collection and recording of the nation's publications are major tasks, there has to be a strong national library or group of libraries. If the latter, and

if materials are distributed by subject, the libraries in question will also have strong collections of foreign materials. They can then readily perform other functions such as the coordination of exchange, and play a major (but not an exclusive) role in bibliographic access, document supply, access to information, and cataloguing and other services. A single national library will be able to carry out these functions well only if it is not restricted to national publications.

Several of the functions are dispersed, and some need not involve the national library or libraries at all. However, there is no reason why a national library should not develop as a major document or information supply resource if it is large enough to achieve economies of scale and has the required expertise.

A national planning body of some kind is needed for several purposes, not least to decide on the relative roles of the public and private sectors. This body needs to be able to oversee the national library or libraries and coordinate it (or them) with the rest of the library and information system, and therefore cannot be identical with it (or them).

5.2. Large Developing Country

This is a physically large recently independent country in the tropics which is developing rapidly. Its population of 80 million is largely rural, and agriculture is still the main activity, but industrialization and urbanization are taking place quite quickly. Communications of all kinds are poor but gradually improving. The economy is socialist, with only a small private sector. Literacy is low but rising; higher education is still very underdeveloped, but there are more than 10 universities, widely distributed. The output of publications is not large, and most of it is popular or official material; there is little in the way of scholarly and scientific publication. Libraries are scattered and not numerous, and most have poor resources. Demand for reading and educational material is extensive and growing, but demand for advanced matter is very small.

1. <u>National collection</u>

a. Nation's publications. The volume of material publications (including 8,000 books a year) is still small, and can easily be collected in one place; there is no point in distributing it among several collections, particularly as litle of it is needed for research. The task of collection is however quite difficult, and local libraries need to be involved in it. The central collection can be either a separate library (a national library) or part of a major research library; this latter solution is cost-effective only in the short term, since as the country develops its volume of output will grow rapidly, perhaps to a high level, at which point the national role will tend either to dominate the library or to receive insufficient attention. Also, there is bound to be conflict between the different roles of the library, and there may be some risk to the condition and security of the national collection.

b. Unpublished documents. Although there are few manuscripts, there is a rich oral culture which should be preserved. Because the early history of the independent country is in the making, it is important to collect as comprehensively as possible. Suitable conditions for handling and preservation of these materials are not common, so it is wise to collect this material in one place (though visual and sound recordings may be housed separately).

2. Bibliographic needs

a. Record creation. Should be done centrally by the library responsible for collecting the material.

b. Access. Back-up should be provided centrally - by a national library (whether separate or shared), or by another library or bibliographic centre.

3. National resource

a. General. The national resource will need to be built up from a fairly low level. Since money is short, materials will be acquired as and where they are needed for local use, especially in university libraries. The result will tend to be an unbalanced national resource, of which the most immediately useful items will be in heavy local use (and therefore not normally available nationally) and also receive heavy wear; while the less immediately useful will probably not be acquired at all. It is necessary to go quickly beyond this stage and acquire additional material for the benefit of the whole country, especially since large increases in demand can be expected. The main alternatives are to build up relevant local collections or to acquire materials for a central collection for remote supply to any library in the country. The first alternative is satisfactory only if there are highly specialized libraries (such as an agricultural university or a medical research centre) - that is, if use in one location is at least as great as all other national use combined. Otherwise, it is better to build up a national collection. In any case, national planning is needed to ensure that resources are deployed to optimum effect.

b. Retention. This should follow the pattern adopted for the national resource.

4. Access to publications

a. Reference. Distributed; there is little point in a large central collection for reference, since the population is scattered and communications are not good.

b. Remote supply. Depends on the option chosen for the national resource. Should be planned for large future growth. Union catalogues need careful planning.

5. Exchange

Little need for exchange nationally, but centre needed for receiving and distributing material available from libraries abroad, preferably connected to the body concerned with planning of the national resource.

6. Access to information

a. Primary. A real need, especially in agriculture and medicine, and also other areas of science and technology. Many needs will be met locally, but a national centre is

highly desirable.
b. Processed. The same applies; local skills are likely to be scarce.
c. Information guides. Useful, but not a top priority. Could be prepared as required by any library or information unit.

7. Services to other libraries
a. Cataloguing. Little problem at present, but provision needs to be made for the future when libraries acquire more material, and union catalogues require some standardization of records. Most records required will be of foreign materials. National centre needed.
b. Other services. A variety of these is needed. The required expertise is likely to be available only in one or two libraries.

8. Leadership and advice
a. Leadership. This is much needed; models of good practice are also needed. The most important library in the country is best placed to provide it.
b. Advice. This is also needed; it should be given from a centre with the right expertise.

9. Planning
A great deal of national planning is needed. It can be given either by a planning body or by a library of national status.

10. Education
A serious and urgent national need; practice is needed as well as teaching. Can be provided by an educational institution in cooperation with a major library, supplemented perhaps by a major library which incorporates provision for library and information training.

11. Research and development
Not a priority need except as a support to planning.

Comment

A major library, preferably a dedicated one, is needed for the national collection. In the next decade or two, expertise and advice are very important and should be provided by a centre. There are several major national functions such as bibliographic access and information supply which require a centre. Planning is also a major need, especially for the national resource and for document supply. Planning on a considerable scale is needed in view of the likely expansion of demand. Education is also a priority need.

Little help can be expected from the private sector, which is small and which would not be able to make profit from any activity in the near future.

This would argue for a national library and information centre with a wide range of functions, including delegated authority from the government for some matters. The alternative would be separate bodies to serve as a (limited)

national library, information unit, bibliographic centre and planning body, though two or more of these functions could if necessary be combined under one roof. The functions are however related, and some overlap in provision of personnel and stock as well as accommodation would be needed for separate institutions. Although a country of such a size as the one hypothesized will have some existing provision, possibly quite extensive, the opportunity may perhaps exist for quite far-reaching planning ; in such a case the role of separate institutions might be diminished and a national library deliberately planned to serve a variety of functions efficiently.

5.3. Medium Developed Country

This has a population of some 15 million, living mainly in cities or towns. The physical size of the country is small. The economy is mixed, with a thriving private sector coexisting with a large public sector. Communications are excellent. Industry is increasingly in high technology fields, though there is extensive dairy farming. The level of literacy and education is very high, and a large proportion of the age group goes into higher education. The output of publications is quite high (including some 15,000 books a year); much of the more advanced material is in English, though this is not the language of the country. The library system - public, academic, industrial - is very good. Demand for documents and information is high.

Much of what was said about the large developed country applies also to this country, and frequent reference is made to the appropriate part of the text in 5.1.

1. National collection
a. Nation's publications. As 5.1, but the case for distribution among several collections is less strong because output is much smaller, except perhaps on the grounds of the expertise and facilities needed for audiovisual materials.
b. Unpublished documents. Distributed, but with a greater concentration than for a large developed country (because there are fewer libraries).

2. Bibliographic needs
As 5.1.

3. National resource
a. General. Dispersed among major academic and other research libraries; possibly concentrated on selected collections. The case for a concentrated central collection for purposes of document supply is smaller than in 5.1.
b. Retention. As 5.1.

4. Access to publications
a. Reference. Dispersed, but less so than for 5.1. The small size of the country and the good surface communications make a large central reference collection accessible to most.

b. Remote supply. Best performed largely by the major libraries that hold the national resource. More dependence on foreign sources than with 5.1. Central planning and coordination essential.

5. Exchange
As 5.1.

6. Access to information
As 5.1.

7. Services to libraries
As 5.1.

8. Leadership and advice
As 5.1.

9. Planning
As 5.1.

10. Education
As 5.1.

11. Research and development
As 5.1.

Comment

Most of the comments on 5.1 apply. As in the case of the large developed country, there needs to be a strong national library or group of libraries to perform basic tasks, and it (or they) will be in a good position to carry out other functions, although it will not be on the same scale as in 5.1. If there are several libraries with national responsibilities, one of them may be given a prime role. Since the private sector is less prominent than in 5.1, public sector libraries will have a larger role.

The same need as in 5.1 for a national planning body exists, and the same considerations apply.

5.4. Medium Developing Country

This has a population of c.10 million; the country itself is not very large in area. The pace of development is slow, as the country has few natural resources. The economy is still mainly agricultural, and a relatively small proportion of the population lives in towns. The country is capitalist, and has a heavy economic dependence on developed capitalist countries. Literacy is low and slow to rise. Education is mainly at the primary level, and not universal; higher education is represented by two universities. Surface communications are not bad, but telecommunications are poor and unreliable. There are few libraries of any size; the best are the two university libraries, but these are poorly financed.

1. National collection
a. Nation's publications. The output is very small

(including 700 books a year), and is not difficult to collect since it is mostly produced in three or four towns. There is therefore no case for dispersion. Since there is little chance of creating a viable national library with skilled personnel and appropriate facilities, the bigger and more central of the two university libraries would be best placed to collect the nation's publications.
b. Unpublished documents. These should be housed with the nation's publications. As with the large developing country, efforts need to be made to collect products of the oral culture.

2. Bibliographic needs
a. Record creation. As 5.2.
b. Access. Should be provided by the combined national/university library.

3. National resource
a. General. This will be concentrated on the two university libraries, and should continue to be so.
b. Retention. Centralized on the combined national/university library.

4. Access to publications
a. Reference. Largely concentrated for the near future, though this situation should be modified as and when other libraries are created and develop.
b. Remote supply. The national/university library should play the main national role. Heavy reliance will have to be placed on material from abroad, and the national/university library should be a main international link. Planning should be the responsibility of a government agency or the national/university library.

5. Exchange
The national/university library should be the focus for exchange, which will be largely international.

6. Access to information
As 5.2, except that few needs will be met locally. Provision needs to be made for the future.

7. Services to libraries
As 5.2. The natural centre and source of services is the national/university library.

8. Leadership and advice
Greatly needed. The national/university library is the only likely source.

9. Planning
As 5.2.

10. Education
As with 5.2, this is an urgent and vital need. The national/university library with the associated university is in the best position to provide this, since it should be able to offer both academic training and practical experience.

11. Research and development
As 5.2.

Comment

The same arguments as those for 5.2 apply, except that a shared national/university library is probably a practical necessity. Also, the case for separate institutions for the main groups of functions is weaker in

5.5. Small Developed Country

This is a country with a population of fewer than 4 million, scattered over a fairly large area and consequently with a low density. Its economy, which is mixed, is based on a small number of industries; it exports some minerals and is self-sufficient for food, and it should be able to maintain its level of development. Communications are good except for surface communicatons to outlying areas. The level of literacy is very high, but a rather small proportion of the age group goes into higher education. The output of publications is modest (including c.2,000 books). Libraries are good and well distributed.

1. National collection
a. Nation's publications. Should be collected in one place, including if possible audiovisual materials. This collection may be shared with a university library.
b. Unpublished documents. Would tend to be concentrated in one major collection.

2. Bibliographic needs
As 5.1 and 5.3, but with more activity taking place at the centre.

3. National resource
a. General. Dispersed, but more concentration on major collections than for 5.1 and 5.3 will occur naturally since there are fewer libraries.
b. Retention. As 5.1 and 5.3, but with more concentration on the central collection.

4. Access to publications
a. Reference. As 5.3.
b. Remote supply. As 5.3, but with still more reliance on foreign sources of supply. Good planning and coordination essential.

5. Exchange
As 5.1.

6. Access to information
As 5.1 and 5.3, but the functions of a national information centre can more easily be combined with the national library.

7. Services to libraries
a. Cataloguing. As 5.1 and 5.3, but the national library may have a larger role.
b. Other services. The national library is likely to have a concentration of expertise.

8. Leadership and advice
As 5.1 and 5.3, but the national library may have a larger role.

9. Planning
As 5.1 and 5.3.

10. Education
Probably only one or two library and information schools are needed. Little coordination is therefore necessary.

11. Research and development
As 5.1 and 5.3, except that dispersion will be less.

Comment

A single national library for collection and recording seems to be indicated, possibly combined with a university library. This will also collect foreign publications extensively, and have a wide range of facilities and an experienced staff; it will therefore be in a position to perform some of the other functions, including perhaps information provision if staff with the right skills are available.

5.6. Small Developing Country

This is physically quite a large country, but it has a population of only 3 million. There is almost no industry, and very few sizable towns exist. The country has a socialist economy. It has valuable minerals, and is using a large income from exports to develop quite quickly. Education, higher as well as primary and secondary, is regarded as a priority; there are now two universities, and a third is planned. The library system is also developing, though more slowly. Surface communications are poor, but telecommunications are quite good. Output of publications is low (including 500 books a year) but growing quite fast. Information demand is small but increasing rapidly.

1. National collection
a. Nation's publications. Should be collected in one place, preferably a separate national library, which the country should be able to afford.
b. Unpublished documents. Should be collected mainly by the national library.

2. Bibliographic needs
As 5.2 and 5.4.

3. National resource
a. General. Needs to be built up quickly from a low level,

retrospectively as well as by current acquisitions. This is most effectively done by the national library, though resources will be more widely spread as other libraries develop. Careful planning needed to make best use of the money spent.
b. Retention. Should be concentrated on the national library.

4. Access to publications
a. Reference. At first concentrated on the national library, then increasingly distributed.
b. Remore supply. Heavy but decreasing dependence on foreign sources as the national resource grows. Supply will be shared between research libraries but the main burden should be carried by the national library, whose resources should be built up with national document needs in mind. Very careful planning needed.

5. Exchange
Should be managed by the national library.

6. Access to information
These important functions will be distributed, but a well designed national library can and should play a major role.

7. Services to libraries
a. Cataloguing. Should be done by the national library.
b. Other services. Likewise.

8. Leadership and advice
As 5.2.

9. Planning
Of prime importance, if full advantage is to be taken of the uniquely available opportunities. The national library should play a major role, but should not be the only body involved.

10. Education
As 5.2.

11. Research and development
As 5.2 and 5.4.

Comment

This country has a unique oportunity to plan a fully effective national library and information system to serve needs rather than merely following the examples of other countries with traditional systems that may have grown up over the years, and should take full advantage of it. At the same time, a national library can serve as a symbol of nationhood and national pride. A separate national library is strongly preferred, but it could not be justified for the collection of the nation's publications alone. Fcr this and other reasons it should aim to be the major research library in the country; play the major role in document supply, exchange, bibliographic access, information provision, and cataloguing and other services; act as leader; and be centrally involved in planning, and probably in education.

Its dominant role will and should gradually lessen as other libraries develop, but it will remain the country's leading library in every respect.

6. CONCLUSION: THE ROLE OF THE NATIONAL LIBRARY

Clearly no absolute prescription can be given for any country. Whatever system local circumstances may favour, there may be overriding reasons why a national library should or should not be created, or why one of a particular kind is desired. One important motive which can certainly not be ignored is the desire of an emerging nation for a symbol of its national identity and culture. This is an admirable aim, which however can be frustrated if the continuing support necessary is not provided, or if the needs the new national library is to meet are already satisfied more or less adequately in other ways. A seriously under-resourced or redundant national library is not only useless and wasteful; it also fails as a symbol.

As indicated in 4.4, in no country is a single and separate national library the only way of meeting any single national library and information need. For several needs a single institution may be the best (that is, most cost-effective) solution, and the more needs it serves the better it should be able to serve others (see 4.4), because it will have the range and depth of expertise required and the necessary facilities. Some needs a single institution cannot meet entirely on its own, but it can exercise a valuable and perhaps essential coordinating role.

There is a paradox. Developed countries are the best able to afford a national library, and most of them already have one for historical reasons, but they need one less than less developed countries - which however are less able to afford one or find one easy to justify in economic terms. It should be borne in mind that a basic national library in a less developed country - that is, one carrying out only two or three basic functions - is not likely to be cost-effective, and can be justified only if other functions are added. In fact, to do so makes sense, since there are usually few other institutions in such a country that are capable of performing the functions adequately.

Possibilities range from a very high degree of centralization on a single and separate national library to a very widely dispersed system of provision that includes a good deal pf private sector activity. The range is too great to make a short summary a realistic possibility. In principle, a national library in a large developed country could have a basic collection of the nation's publications and a collection of manuscripts and rare items, record them, and leave all other needs to be served in other ways. This is in fact a not uncommon practice. At the other extreme, a national library could have a very wide range of functions.

Rather tentatively, Table 3 sets out four levels of involvement of a national library, whether separate or shared, combined or divided, from the basic to the all-embracing. Various other combinations are of course possible, and in some circumstances desirable. This table

Table 3 - Roles of a National Library: Levels of Involvement

FUNCTION	LEVELS OF INVOLVEMENT			
	Basic <- - - - - - - -> Extensive			
1. National collection				
a. Nation's publications	1	1	1	1
b. Unpublished documents	3	3	2	1
2. Bibliographic needs				
a. Record creation	1	1	1	1
b. Access	3	3,C	2,C	1
3. National resource	3	3,C	2,C	1
4. Access to publications				
a. Reference	3	3	2,C	2,C
b. Remote supply	-	3,C	2,C	1
5. Exchange	-	C	C	1
6. Access to information				
a. Primary	-	3,C	3,C	2,C
b. Processed	-	3,C	3,C	2,C
c. Information guides	-	?	?	?
7. Services to libraries				
a. Cataloguing	3?	3,C	2,C	1
b. Other	-	3,C	2,C	1
8. Leadership & advice				
a. Leadership	3	3	2,C	1
b. Advice	3	3,C	2,C	1
9. Planning	-	-	2	1
10. Education	-	-	2,C	1
11. Research & development	-	3	2,C	1

Notes

1 = Main role (i.e. the only or main provision for this need)
2 = Important role
3 = Some role
C = Coordinating role

may be compared with Table 2 in 4.4. No attempt is made here to match levels with types of country, since each function is dealt with in some detail in chapter 5. In general, functions 8-11 are more suited to less developed countries. Otherwise, any country of any type could choose the level it wished or found to be cost-effective.

A matter of particular interest is the relative roles and relationships of national libraries and documentation centres. Many countries do not have documentation centres; the relevant activities are carried out by national or other libraries or by the private information sector. In fact, documentation centres, especially in less developed countries, seem to have been created largely to meet urgent needs for scientific and technical information that could not at the time be met by the national library. There has also in the past been a view that librarianship and documentation were different and required different types of organization, including different staff, usually science-trained rather than library-trained. This view is now much less commonly held, particularly as libraries have become more involved in the provision of information services. The effect of establishing distinct documentation centres has sometimes been to postpone the creation of a national library, or if one exists to restrict its activities and stunt its growth; it may have little or no role in science and technology, it may meet few urgent or important needs, and in consequence may be unable to make a strong case for funding. In retrospect, documentation centres might have been better incorporated in national libraries or have formed the base of one with wider responsibilities. With the need to economize in buildings, stock and staff, the existence of quite separate organizations no longer seems necessary or wise. However, it is not part of this study to consider their interrelationships where this situation exists, any more than it is to consider the detailed relationships between national libraries and academic and public libraries.

There are other roles that may be performed by a national library than those covered in this document. A not uncommon one is service to the legislative assembly of the country; an example is the National Diet Library in Japan. These additional roles, important though they may be, have not been considered here, because they are not national needs in the sense that they are functions or services required by the country as a whole; this is recognized in the case of the example above by the fact that in many countries legislative assemblies have their own quite separate libraries, as have government departments.

This study has attempted to do no more than provide an analytical framework for national library and information planning. It leaves many questions unanswered, and many important issues explored only partially or not at all. If the approach adopted here is thought to be worth pursuing, there is a good deal of detailed work still to be done. In particular, some case studies of real situations would add greatly to our knowledge.